

# THE AUK:

A QUARTERLY JOURNAL OF

ORNITHOLOGY.

---

VOL. XXV.

JULY, 1908.

No. 3.

---

## OBSERVATIONS ON THE GOLDEN EAGLE IN MONTANA.

BY E. S. CAMERON.

### *Plates I-IV.*

FROM January to September in 1907, I lived about a mile and a half from the eyrie of the Golden Eagles (*Aquila chrysaetos*) which have nested on Mr. J. H. Price's ranch at Knowlton for seven years. I saw one or other of the splendid birds almost daily, and it was interesting for me to compare their habits with those of the eagles nesting near my ranch in Dawson County of which I have already written a full description.<sup>1</sup> In contradistinction to the latter (which occupied a ledge of rock) these Knowlton eagles have selected a tall pine about half way up a steep hillside, the largest tree in the grove. This hill forms one of a wild pine-clad range facing east and approached across open prairie from that side. It is possible, however, to ride up through timber and rocks behind, and look down into the nest from the hilltop without alarming the eagles. All that takes place therein is plainly visible through powerful binoculars. The Eagles have become so familiarized with the sight of large droves of horses and attendant riders, as to take scarcely any notice of a horseman. On this account many actions can be observed, such as the capture of prey, its conveyance to the nest, and feeding the eaglets, which the more shy badland birds never allowed me to witness. The eyrie, which

---

<sup>1</sup> See Auk, Vol. XXII, 1905, pp. 158-167.

consists of an immense pile of pine sticks, rests upon, and is built around, a number of green boughs, while a dead projecting branch near the center forms a convenient perch for the parent eagles. As would naturally be expected in the present case, the vertical height of the nest greatly exceeds the diameter, and its width is much inferior to the nest upon the rock previously described. Nevertheless, as seen from below, it conveys an impression of strength, which is not belied when it is reached, for a six foot man can sit in it with ease. On May 11, the whole external circumference of the nest rim was interwoven with an ornamental binding of green pine tops.

This pair of eagles are of course fully adult, and both have unvaried dark brown tails. The female resembles the male of the Fallon eagles across the Yellowstone and would appear to be a uniform chocolate brown but for a few white scapulars, and some white splashes on the greater wing coverts. The male is similarly flecked with white, but a distinct ferruginous cast overspreads his plumage. As early as February 25, the male eagle was observed to tumble in the air. I first witnessed this remarkable evolution on March 14, 1904, but have observed it several times since. To the best of my knowledge no previous writer has alluded to this habit of the Golden Eagles although it is common to both sexes in the breeding season. It recalls at once the spring tumbling of the male Marsh Hawk (*Circus hudsonius*) which is even more extraordinary from the fact that the hawk turns somersaults in the air. On March 12, 1905, I paid special attention to this display on the part of the male eagle which happened at the time to be sitting on a pine at my Dawson County ranch. Soaring skyward, he suddenly closed his wings, and dropped head-foremost like a spent rocket, until the increasing impetus was checked by spreading them. After his first tumble the eagle shot upwards and repeated it, when he returned to the tree before resuming his aerial performance. The bird employs a somewhat similar manœuvre, but poised at a lower elevation, for capturing prairie dogs, to which I shall again refer.

At the above mentioned date (Feb. 25) the Knowlton eagles were observed to be patching up their nest, and, while this seemed to give promise of a very early brood, the downy young eventually

appeared about the same time as the badland eaglets. On April 1 the female was sitting on two eggs, and on May 2 the young were hatched out. For birds of their wild shy nature these eagles are wonderfully tame. On April 13, I rode under the branch of a pine in which the male eagle sat, and examined him within a few yards. The bird, which had just begun to moult, remained on his perch preening himself during the whole time that I was there and was still thus engaged when I rode away. The female is more nervous, but, if driven from her eggs, will immediately return to the tree and afterwards settle down on the nest. It is fortunate for the birds that their chosen nesting site is on private property where the owner and all his men take a deep interest in their welfare.

Much has been written in regard to the larder of the eagle during the breeding season, and I have read with great interest and instruction the pamphlet on North American Eagles<sup>1</sup> by Mr. H. C. Oberholser, who gives the following estimate of the probable number of Sharp-tailed Grouse destroyed by Golden Eagles in this State. He writes: "Allowing a pair of eagles to every 100 square miles in Montana, which is probably conservative, there would be 1,450 pairs in the State, and should each one of these pairs kill only one grouse per day for the three months during which eaglets remained in the nest, 130,500 grouse would be destroyed in Montana during this period alone, while it is not to be supposed that at other times the eagles refrain entirely from a diet of game birds. Furthermore, since at this time the grouse themselves have young or eggs, the death of the parent birds means usually the loss of the brood, and this would amount at the lowest calculation to double the number of adults (probably much more) or 261,000 young. Adding to this the adults there results a total of 397,500, a number that is astonishingly large, yet doubtless well within the truth. The destruction of young is of course not as detrimental as that of an equal number of adults, for the young have less chance in the struggle for existence and in the above calculation ample allowance has been made accordingly."

The above is a startling indictment against the royal bird, but

---

<sup>1</sup> The North American Eagles and Their Economic Relations. U. S. Department of Agriculture, Bulletin No. 27, pp. 27-28.

its force is greatly weakened by two considerations which give a somewhat different complexion to Mr. Oberholser's results. In the first place it must be remembered that the "balance of Nature" is maintained by relatively few survivors out of the total number born. "Heavy destruction," to use Darwin's classical phrase, "inevitably falls either on the young or on the old during each generation and at recurrent intervals." Birds of prey or epidemic disease are the necessary complement of grouse. In England we have extinguished the birds of prey and our plethoric grouse moors are periodically swept by a pestilence. With all rapidly increasing species, whether of fur, fin or feather, a periodical destructive agency is not only necessary but beneficent. The eagle is replaced by the bacillus.

In the second place, Mr. Oberholser's figures rest on the assumption that all the Montana eagles live on grouse; but this is a mistake, and his estimated eagle grouse-bag may therefore be considerably reduced. As pointed out by Mr. Frank M. Chapman: "A bird's food habits may vary so greatly with locality that it is as deserving of protection in one place as it is unworthy of it in another."<sup>1</sup> All my observations and enquiries show that Golden Eagles invariably feed themselves and their nestlings upon whatever prey is most convenient to their eyrie. Thus many pairs take very few game birds. For example, large prairie dog towns constitute the domain of the Knowlton eagles, and, in striking contrast to my Fallon pair (which never captured a prairie dog), they subsist almost exclusively upon this rodent. Whereas I never visited the badland eyrie without finding one or more Sharp-tailed Grouse, the Knowlton nest, on the other hand (which I examined two or three times a week), always contained one, and occasionally two prairie dogs. Now, the destruction of prairie dogs is of the greatest benefit to the settlers, as in this locality (Knowlton) they have increased to an alarming extent. On some ranches the rodents play havoc with the crops and "dog towns" have encroached upon miles of good grazing land, reducing it to a desert. The burrows also constitute a serious menace to fast riding horsemen. It is only necessary to read the forcible

---

<sup>1</sup> Bird Lore, November-December, 1906. p. 213.

paper on 'The Prairie Dog of The Great Plains,'<sup>1</sup> by Dr. C. Hart Merriam, quickly to realize what an unmitigated pest this animal becomes, and how rapidly its towns spread. As quoted therein, Professor W. W. Cooke computes that "32 prairie dogs consume as much grass as one sheep, and 256 prairie dogs as much as one cow." Therefore, whenever eagles, hawks, and owls prey upon these ravagers "they should be protected and encouraged," as recommended in Dr. Merriam's bulletin above mentioned. Only the most energetic measures saved a thirty-acre field of oats belonging to Messrs. Archdale brothers (whose ranch joins that of Mr. Price) from being destroyed by prairie dogs. Despite the liberal use of bisulphide of carbon inside the burrows, combined with frequent shooting of the animals outside, the total estimated summer kill was about 1200 — a number not quite double that credited to the Golden Eagles during the nesting season alone.<sup>2</sup> A hungry eagle will eat two prairie dogs for a meal, but allowance must be made for the fact that females during incubation consume half of what they require at other times. Relying both on what I have myself seen at the eyrie, and upon the observations of others, I have compiled the following statistics.

Throughout the month of April, and for two days in May, allowing an average of three prairie dogs per diem, we get a total of 96 prairie dogs up to the time that the eaglets are hatched. Subsequently, until the young birds forage for themselves (about Aug. 1), if we allow only six of the rodents a day, the total is obtained of 540 prairie dogs for seventy-four days sustenance of four eagles. Thus we have a grand total of 636 prairie dogs during four months for one pair of eagles, which is probably well within the mark.<sup>3</sup> An eagle intent on capturing a prairie dog floats leisurely above the 'town' at a medium height on motionless wings. Preliminary inspection of the hunting-ground is accomplished in wide circles or long sweeps, perhaps two or three miles each way, so as not unduly to alarm the game. Passing over at long intervals, the

<sup>1</sup> Yearbook U. S. Dept. of Agriculture, 1901, pp. 257-270.

<sup>2</sup> Besides those suffocated, large numbers of prairie dogs were driven by the bisulphide fumes to migrate, and were observed on their travels by Messrs. Archdale.

<sup>3</sup> In an interesting article on the Golden Eagle, Mr. William L. Finley estimates that the family of California Eagles observed by him consumed 540 ground squirrels in three months. (*Condor*, Vol. VIII, 1906, p. 10.)

bird scans the dog town and judges of the prospect for a successful stoop. The 'dogs' are of course immediately on the alert, but can only see their enemy for a short time on account of the high surrounding pine hills, and, indeed, most 'dog towns' are too extensive for the denizens at one end to notice an eagle passing over at the other. Moreover, an unsuccessful eagle will keep on the wing for several hours, and it is almost certain that the hungry prairie dogs will relax their vigilance at last. When the eagle considers that a favorable chance has arrived it sinks lower, so as to bring the distance between itself and the animals to something like seventy-five or a hundred yards. Should the latter still remain above ground, the royal bird suddenly folds its wings, and, with meteoric rush, falls head first towards the astounded prairie dogs. These scamper for their holes, but about three yards from the ground the eagle spreads its wings and, swiftly following the intended victim, darts out a cruel foot to grasp it. If the attack fails, as sometimes happens, the eagle mounts in a slow, reluctant manner which plainly reveals its disappointment. On May 3 Mr. M. M. Archdale (on a sulky plough behind three horses) drove within a hundred yards of the male eagle when it stooped for, and just missed a prairie dog in the manner above described. His minute observations corroborate mine from a far greater distance. On a different day two other observers saw the same bird successfully seize a prairie dog, but drop it after rising to a considerable height. The eagle made no effort to recover its booty, and such behavior is rather difficult to explain. I suggest that as a prairie dog is carried in one foot the quarry, in its death agony, may have severely bitten the bird's free leg incautiously advanced.

My brother, Mr. Allan Gordon Cameron, who has had considerable experience of Golden Eagles in Argyllshire, believes that they distinctly prefer furred to feathered game. Their favorite food is the Mountain Hare (*Lepus variabilis*), and a dead cat is a sure draw to a trap, if eagles are in the neighborhood. When hares are scarce, or entirely absent, as in the Island of Jura (Inner Hebrides) eagles take rabbits, if accessible, and failing rabbits, perforce prey on grouse, with the devastating results above mentioned by Mr. Oberholser. These results in Jura, however, were due to the grouse leaving the ground in panic, rather than to their

actual destruction by the eagles. During the deer-stalking season, in autumn, eagles find a supplementary food supply in the offal of deer. For a long time in Scotland it was thought doubtful if the Golden Eagle ever struck at flying birds, but Mr. Seton P. Gordon has conclusively shown that it does so with the wing, and that many grouse and ptarmigan are thus dashed to the ground.<sup>1</sup>

To come back to Montana: during the winter of 1906-'07 the Knowlton eagles fed almost entirely on carrion, and three of these birds were regular evening visitors to some cattle carcasses in the willows and box elders along the creek where I lived. A collie used to slink away to this place at sunset, whose disappointed barking often signalled the presence of the royal birds, which kept him at a respectful distance. It was the dog which first brought this habit of the eagles to my notice, as, hearing him bark, I went to find out if a wolf (*Canis lupus* var. *occidentalis*) or other wild animal was guarding the carrion.

The winter of 1906-'07 was the most severe in my eighteen years' Montana experience. For two months the snow lay a foot deep and upwards on the level, and the eagles doubtless found it a difficult matter to obtain sustenance. The Sharp-tailed Grouse and jack-rabbits burrowed into the drifts, and during part of this period the frozen cattle carcasses were proof against the eagles' bills. At Knowlton, on January 14, the thermometer registered  $-34^{\circ}$  at 9 A. M., and all day the spirit never rose above  $-16^{\circ}$ , while on January 15, the temperature varied between  $-12^{\circ}$  at 9 A. M. and  $-16^{\circ}$  at 6 P. M. The famished eagles were compelled to unusual effort, and Mr. R. L. Anderson (who has a ranch in this locality) most kindly sent me a full account of the following remarkable incident. In the middle of January, he was riding two miles below his ranch on the south fork of Cottonwood Creek and suddenly came close upon three Golden Eagles which were devouring an adult buck antelope (*Antilocapra americana*) in a little draw.

Upon his appearance the eagles endeavored to take wing, but all found great difficulty in doing so, "and hopped and fluttered along on the snow for a considerable distance before being able to rise." Despite the bitterly cold weather, the antelope was warm

---

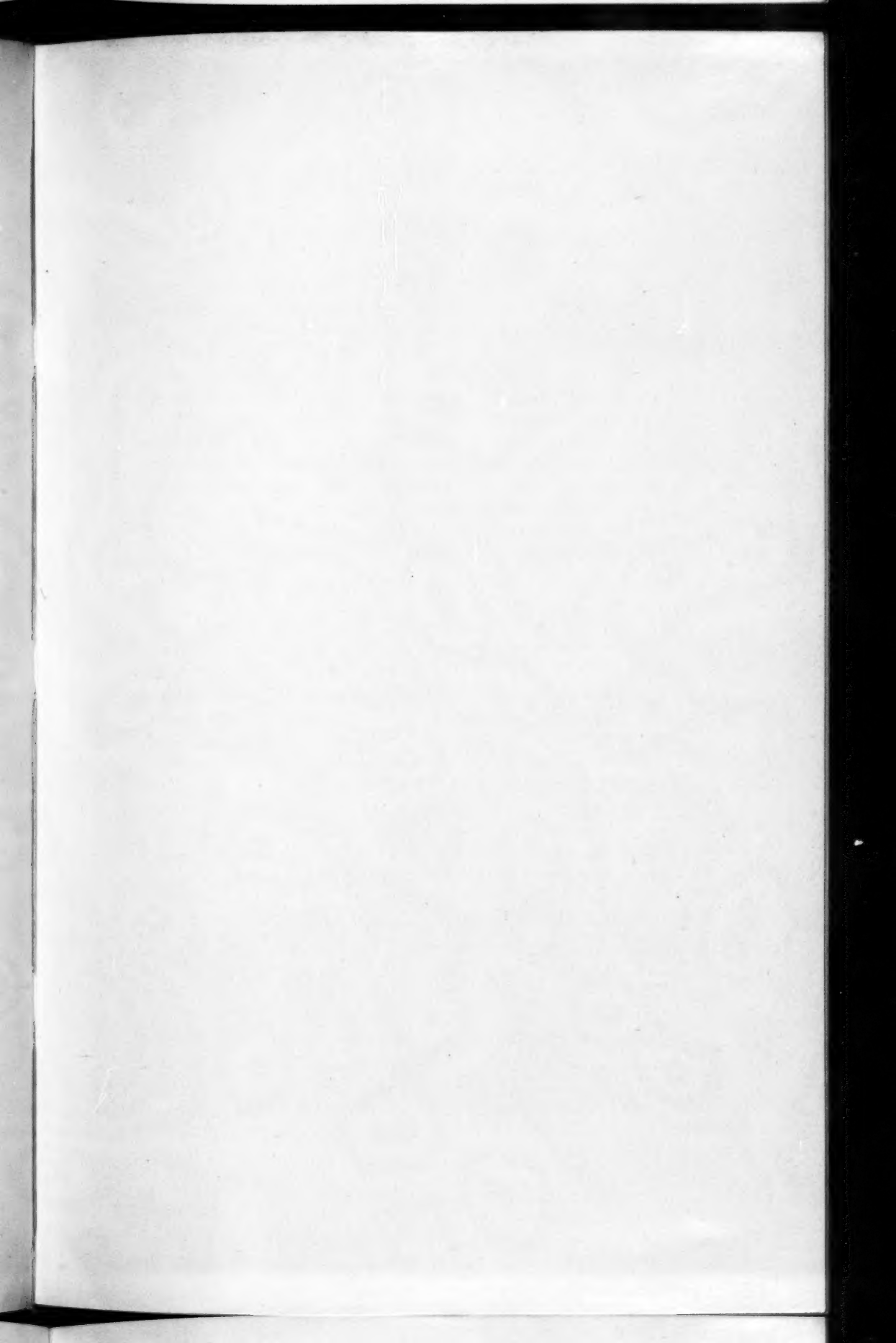
<sup>1</sup> Country Life, Jan. 27, 1906.

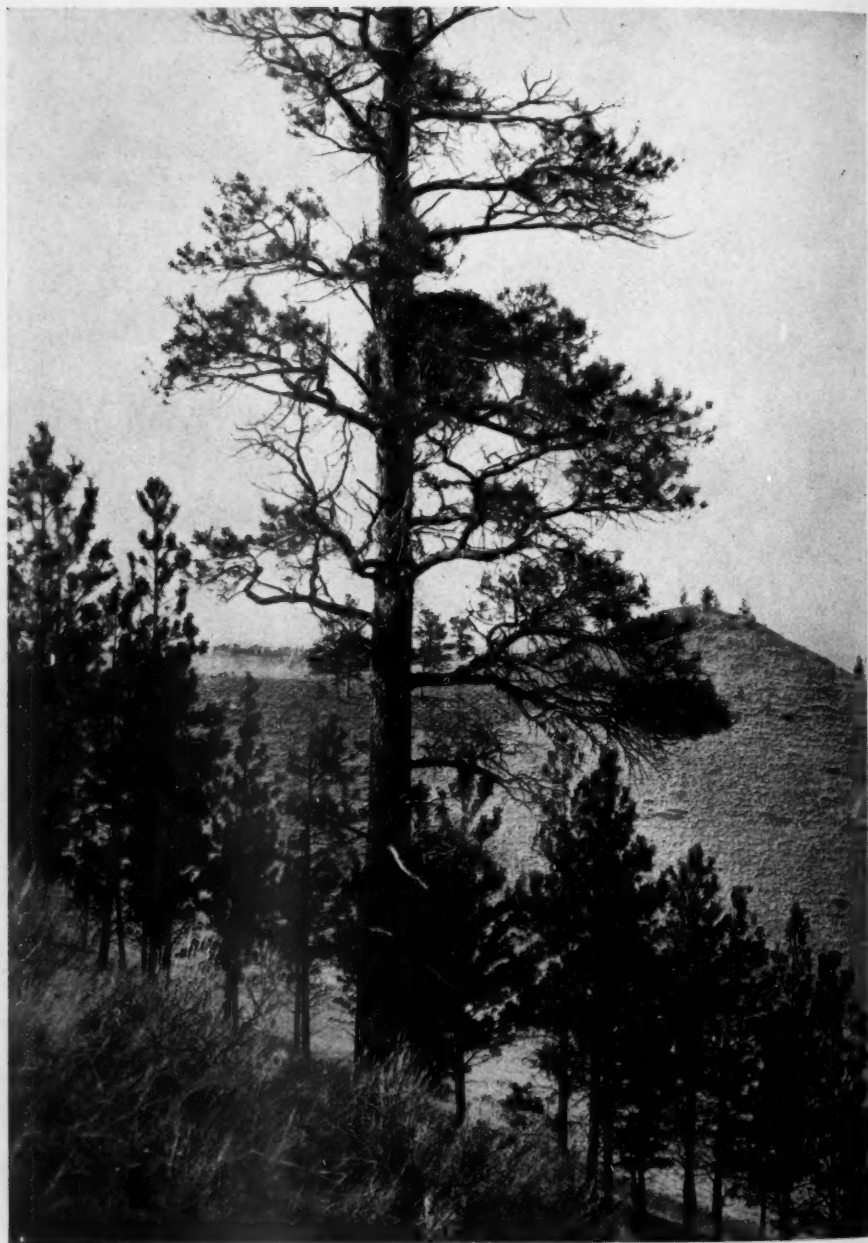
and limber when found, as it had only been quite recently killed. The eagles had torn a large hole in its back with their terrible talons, and were feeding on the kidneys and entrails. Mr. Anderson at once investigated the scene of the struggle and could easily read the gruesome details on the deep, crusted snow. The eagles had obviously stampeded a bunch of antelope, and then cut out a victim by a combined attack. Leaving the herd, the latter endeavored to escape down a small right hand draw, but after covering about a hundred yards was beaten back by the eagles. It then crossed a ridge on which the main antelope trail ran at right angles to its own and, hard pressed by its assailants, struggled down a narrow left hand draw to the place where it succumbed. Altogether the antelope could barely have covered three hundred yards after the first attack by the eagles. The victim, which had evidently offered a gallant resistance, seems to have made a stand in three places, chiefly where found, but also at points along the trail. The crimson stained snow and thickly strewn hair, added to the well defined wing prints of the flapping and dragging eagles, sufficiently revealed this prairie tragedy. One or more of the birds must have clung tenaciously to their quarry's back and from the deep wounds thus inflicted "the blood had spurted out as when a cow's horns are sawn off."

R. R. Brown (the wolfer at Knowlton) informs me that he has often found coyotes in his traps which were partially devoured by eagles. Presumably the coyotes were much debilitated before the eagles attacked them. It is erroneous to suppose that the eagle is "not affected by poisoned bait." Every Montana wolfer has killed eagles in winter with strychnine put out for wolves, and I have myself seen dead birds which had perished from this cause. To quote the late Mr. Howard Saunders, "poison has been a very important cause of the approaching extinction of the Golden Eagle in Ireland."<sup>1</sup> On April 22, the two brothers Archdale saw the male eagle attempt to secure a victim from a north-bound flock of Canada Geese. At sight of the great black bird, which rapidly overtook them, the panic-stricken geese scattered in wild confusion from their usual V-shaped formation, and each member

---

<sup>1</sup> Ibis, Vol. V, 1905, p. 481.





EAGLE EYRIE, KNOWLTON, MONTANA.





GOLDEN EAGLE IN PINE TREE LOOKING DOWN AT PHOTOGRAPHER.

GOLDEN EAGLE IN PINE TREE LOOKING DOWN AT PHOTOGRAPHER.



YOUNG GOLDEN EAGLES, ABOUT TWO MONTHS OLD.

of the flock mounted separately until a mere speck. Meanwhile the eagle endeavored to rise above one of them, but, finding this impossible, he relinquished the chase and flew slowly southwards in the direction of the eyrie. When their enemy was out of sight the geese again resumed a V-shaped formation and continued their interrupted course. The failure of the noble bird on this occasion arose from the fact that he was moulting, and only acute stress of hunger could have induced him to attack the geese. According to my observations the male eagle began to moult on April 13, as above mentioned, and had renewed his plumage by May 1. The female moulted two months later (in the middle of June), and had finished moulting by June 26, when the young were almost ready to leave the nest. Her plumes could be picked up under the tree. I have known a male eagle to shed four primary quills in one day, and it will readily be seen what a serious handicap is here imposed upon his flying powers. It may be supposed that had the eagle succeeded in mounting above the goose, he would have endeavored to bind to this large quarry after the manner of a falcon. Mr. Oberholser, writing of the Bald Eagle (*Haliaeetus leucocephalus*) attacking Canada Geese (*op. cit.*, 11), quotes Mr. William Brewster as follows: "When close upon its quarry the Eagle suddenly sweeps beneath it, and turning back downwards, thrusts its powerful talons up into its breast."

Shortly after his pursuit of the geese the eagle arrived at the eyrie (where I sat on my horse watching) with a prairie dog for his sitting mate. This she declined, when he took the prey to the ground and ravenously ate it himself, tearing it in pieces with the greatest ease. A prairie dog has a very tough hide, and a Goshawk which I had at this time could make nothing of one unless an incision was first made with a knife. An eagle usually places a prairie dog on its back, gradually devours all the edible portion, beginning near the root of the tail, and finishes by leaving a clean skin with the head, feet, and tail on.

The domestic life of the Knowlton eagles was not different in any important particular from that of the badland birds which I have already described. The male did not share the duties of

---

<sup>1</sup> Bull. Nutt. Ornith. Club, V, 1880, pp. 57, 58.

incubation, but assisted his partner to shelter the eaglets both from the high winds and hot sun. If the shading hen bird happened to observe me on the hilltop she would immediately squat flat in the nest and imagine herself hidden. This habit was common to both female eagles; their perplexed offspring vainly endeavored to arouse them to a sense of their neglect as long as I remained near. No attempt in the present case was made to secure photographs of the downy white nestlings, as we already had a number, showing them in every stage of plumage from two days old,<sup>1</sup> and we preferred to wait for the eaglets to leave the nest. Although smaller than their badland congeners the Knowlton birds developed sooner, and had entirely lost the fluffy white crop and chin at a month and 26 days old. This suggests the hypothesis that, while a diet of grouse and hares makes the largest eagles, on the other hand, birds fed exclusively on prairie dogs and snakes mature more quickly.

I was unable to verify from personal observation that adult eagles, at least, devour rattlesnakes entire, including the head. Although Sharp-tailed Grouse (*Pediacetes phasianellus campestris*) and Sage Grouse (*Centrocercus urophasianus*) were common in the neighborhood, I only once saw a bird, or the remains of one, in or near the nest. This solitary exception was on June 26, when from the hilltop at 6 P. M. my wife and I (unnoticed) watched the female eagle entirely pluck and dismember a Sharp-tailed Grouse for her eaglets. The eagle, with her back to us, held the grouse firmly down, by planting a foot at each end, on the now perfectly flat nest. After first pulling out the wing quills, she next attacked the soft clinging body feathers, and got rid of those which adhered to her bill by violently shaking her head. The apparently full-grown eaglets waited patiently one on each side of her, until their supper was ready, and at this point the old bird perceived us and flew away. The eaglets seemed half inclined to follow her example but did not leave the branches. Next morning we were early on the ground with a camera and an ascent of the tree was attempted. Before the eyrie could be reached, however, the female eaglet flew strongly for upwards of a quarter of a mile and settled on the oppo-

---

<sup>1</sup> See Auk, Vol. XXII, No. 2.

site hillside. My wife immediately walked to the spot and succeeded in catching her by a wing after the eaglet had made several abortive efforts to rise in the calm air. The male also flapped out of the eyrie and landed bouyantly on the prairie but was captured without trouble. Both eaglets were brought back to their nesting tree; they showed no fight, but clung tenaciously with their talons to whatever they could seize, according to the unfailing custom of young eagles, hawks and owls. As was the case in my former experience, there appeared to be a week's difference in age between the eaglets although hatched at the same time.

We have always found difficulty in photographing full-fledged eaglets, a quick exposure in the sun being necessary, and the subjects persistently flap into the shade. If forced to stay in the sun they turn their backs upon it, and thus belie the poetic fancy of "An eagle mewing her mighty youth, and kindling her undazzled eyes at the full midday beam."<sup>1</sup> Although the old birds endure heat better than their offspring, they collapse panting, with wide open mouths and drooping wings, at 100° in the shade. Eagles then present an undignified appearance much at variance with their ordinary noble aspect. The tendency of the eaglets to droop their wings is apparent in all the photographs; in one view (of the rock) the male has quite assumed the absurd pose of the overheated eagle.

After photographing the eaglets we wasted much time and labor in attempting to restore them to the higher branches. As soon as we replaced them, they flew down again, preferring to sit about on fallen pines until their perfected wings should emancipate them, forever, from their surroundings. At this stage we saw little of them, owing to the difficulty of finding them amidst the rocks and forest debris of these wooded glens, but I ascertained that the parents continued to watch over, and to feed them on prairie dogs for another month. It is possible that the old birds attended to their offspring after this time, but the fact remains that during August, when the eaglets were constantly observed on rocks or pines about the ranch, the parents were never seen with them. Whether sitting inactive, or on the wing, the youngsters always

---

<sup>1</sup> Milton. Tractate of Education.

kept up a harsh whistle which was, undoubtedly, a lament for their absent relatives. Once, when one of them lost the other, it screamed incessantly from a lofty scoriaceous rock until its companion returned. Its cries were audible for half a mile, and attracted my wife's attention within the house. In this particular the young birds differ greatly from more matured eagles which are almost invariably silent and utter no sound even when caught in a wolf trap. On September 6, I watched the eaglets hunting for themselves, and to all appearance they flew quite as strongly as the adult birds. Hence we may infer that an eagle takes three months to acquire its full, and almost unrivalled aerial power.

Mr. Oberholser in his bulletin above mentioned states that "The eagle probably seldom, if ever, carries a weight of more than 10 or at the most 12 lbs." Between these two lies the average weight of the bird itself, and some English writers have recently assumed that the eagle can lift and carry off its own weight in prey or even more. Having been able to devote much time to a study of the habits of two pair of eagles (sixty miles apart), which nested close to a ranch where I lived, I feel convinced that the carrying power of the Golden Eagle is limited to a weight of eight pounds at the very most. To supplement my own experience I wrote, in the first instance, to Mr. James Inglis, for 30 years head keeper to the late Duke of Sutherland, who has probably seen as much of eagles in the Scottish Highlands as anyone now living, and subsequently to my brother, who has resided in north Argyll for 23 years, and enjoyed ample opportunities for the study of wild life in a wild district, where eagles breed annually. The experience of both these observers on the point at issue concurred with my own. They report that no authentic record exists in their experience of a Golden Eagle ever carrying a heavier quarry than a mountain hare (*Lepus variabilis*), whose average weight is from 4 to 6 lbs., or a very young hill lamb of the same, and even less weight. Mr. Inglis also writes: "To give some idea what absurd stories are told about eagles: last year a story went the round of the northern newspapers that an eagle carried away a young child at Bonar Bridge. When this was probed to the bottom it was found that two boys invented the tale and sent it to the 'Northern Chronicle' for fun." Mr. R. L. Anderson informs me that a Golden Eagle

has been seen to carry a kid antelope in Montana, but he did not witness the occurrence himself.

I willingly admit that an eagle of exceptional size, or when stimulated by stress of circumstance to exceptional effort, may lift an exceptional weight. Mr. Harting, for instance, relates a story of an eagle which, while devouring a hare was attacked by a fox, and which in its effort to escape from the bull-dog grip of its antagonist lifted the fox to "a considerable height in the air." The witness of this struggle is not recorded by name, but Mr. Harting says that Robert Gray took pains to verify the story.<sup>1</sup> As given in the London 'Field' for Jan. 11, 1908, the weight of a full-grown dog fox is from 16 to 20 lbs. In this case the eagle possessed a great advantage in having its legs free; there must also have been a wind at the time which enabled the bird to get under way when the fox seized it. Furthermore, we do not know the weight of this particular fox. An eagle always has some difficulty in rising from the ground unless from the top of an eminence with a high wind blowing; and all my observations on Montana eagles confirm the view that an average specimen cannot rise from the level with any weight exceeding 4 or at most 5 lbs. in its talons. A heavy bird like an eagle must have the use of its legs to spring from the earth, and if these are tied, or hampered to any considerable extent, the bird is then unable to rise but flaps along the surface of the ground. In the case of the Golden Eagle, I have amply demonstrated this to my own satisfaction by experiments made with an adult bird caught by one claw in a wolf trap. The eagles which I actually watched carrying prairie dogs to their nestlings held the prey in one foot. On March 21, 1905, my wife and I, when out riding, saw the female eagle of our nesting pair occupied with something at the head of a draw. We rode towards her, and although the eagle could see us coming, she did not take alarm until we were about a gunshot off. Then crouching down she leapt upwards from the ground, and simultaneously spreading her wings flapped down the draw. As the day was calm she continued this flapping until high in air, when she obtained enough wind to sail and circled on motionless wings. We found that she

---

<sup>1</sup> *Recreations of a Naturalist*, by J. E. Harting, p. 336.

had just killed a full-grown jack-rabbit and begun a meal upon a hind quarter after tearing out the entrails and placing them on one side. Why did not the eagle carry away her prey as the Knowlton birds did prairie dogs in the face of any disturbance? As she had ample time to do so the obvious inference is that she could not. On the other hand, when flying in a wind the same eagle could lift a very considerable weight from the ground. Messrs. Undem Bros. informed me that while in full flight she lifted a lamb, probably weighing between 10 and 12 lbs., for some distance into the air before its weight compelled her to drop it. It was this bird which afterwards met her doom through her indiscreet attack upon the collie, and, according to the shepherd, never ceased flying even with the dog in her clutches.<sup>1</sup> Doubtless, adult jack-rabbits carried to the eyrie are picked up by the eagles without alighting or much relaxing speed. Nevertheless, only once within my knowledge was a full-grown jack-rabbit taken to an eyrie, and, although the eagles undoubtedly killed numbers of the adult animals, their usual practice was to tear and dismember them on the spot. I have three times surprised an eagle on a full-grown jack-rabbit, and twice saw it actually strike the victim, but the bird made no attempt to carry off its booty on either occasion. The average weight of an adult jack-rabbit is 7 lbs. (the heaviest weighed by me was  $8\frac{1}{2}$  lbs.), and from the above facts I infer that the eagles here are reluctant to make the required effort for transporting full-grown jack-rabbits to their eyrie. It may be interesting to state that on the two occasions above mentioned both jack-rabbits were crouching in their sage brush forms, and neither made any move when the eagle was hovering above. The eagle appeared to drop on the paralyzed victim much as a Kestrel does onto a mouse. As both my wife and Mr. M. M. Archdale have seen an eagle stoop at and miss a running jack-rabbit on two separate occasions, I presume that if the quarry ran swiftly away it would possess a chance of saving its life.

There is, in fact, an entire absence of any trustworthy evidence by competent observers that Golden Eagles actually lift and carry away animals larger or heavier than hares or game birds. Differ-

---

<sup>1</sup> Auk, Vol. XXIV, p. 264.

ences in expanse of wing and body size must not be lost sight of in estimating the carrying power of eagles. When writing of a larger bird, the Bald Eagle (*Haliaeetus leucocephalus*), at page 12, Mr. Oberholser quotes Mr. William Brewster as follows: "A Brant or Duck is carried off bodily to the nearest marsh or sand-bar, but a Canada Goose is too heavy to be thus easily disposed of. The two great birds fall together to the water beneath, where the Eagle literally tows his prize along the surface until the shore is reached. In this way one has been known to drag a large Goose for nearly half a mile."<sup>1</sup> Mr. Harting (*op. cit.*) has another interesting fact bearing on the present question and guaranteed by the name of that eminent ornithologist, Mr. A. O. Hume. Writing of Pallas's Sea Eagle (*Haliaeetus leucoryphus*) Mr. Hume says: "A Grey Goose will weigh on the average 7lb. (much heavier are recorded), but I have repeatedly seen good-sized grey geese carried off in the claws of one of these eagles, the bird flying slowly and low over the surface of the water, but still quite steadily" (p. 336). A carp of 13 lbs. proved too big a job for an eagle of this species to tackle (*ib.*, p. 337).

Lamb stories relating to eagles, and current in the Western Isles of Scotland during the first half of the 19th century often refer to the White-tailed Eagle (*Haliaeetus albicilla*), which surpasses its more spirited congener both in expanse of wing and in bodily weight. Alex Clark, late estate servant at Jura, had a vivid recollection of the time when the shepherds on Tarbert farm, now deer forest, were supplied with guns and encouraged to shoot these eagles by a reward of so much per head. A similar war of extermination was waged in other islands, and notably in Skye, where my uncle Donald Charles Cameron, then of Glenbrittle, killed during his lifetime 90 eagles, including both species, to his own gun, as mentioned in 'The Auk' for April, 1905. The fact that these Skye eagles only carried to their eyries leverets, grouse, and small lambs — "helpless creatures easily overpowered" — led the late Mr. Seebohm to describe the motions of the Golden Eagle as "sluggish, cowardly and tame compared with the death swoop of the Peregrine" — a somewhat sweeping verdict which few people will endorse.

---

<sup>1</sup> Bull. Nutt. Ornith. Club, V 1880, pp. 57, 58.

Although this article is already very long, I cannot refrain from pointing out that Mr. Oberholser has evidently been misled by other writers when he states (page 21) that the Golden Eagle is untamable. In my own experience the bird is not difficult to tame, and even a wild-caught example soon becomes tractable. At first the newly trapped eagle is savage, and, with spread wings, darts out its terrible foot at any advancing object; but by patience, in a few weeks, the bird's confidence may be won. It never uses its bill in attack or defense, but drives its talons into, or through the cause of provocation and then constricts the foot. In this manner a Golden Eagle has been known to kill a full grown otter which had gnawed away the bottom of the wooden partition which separated them.<sup>1</sup> In writing of a male Golden Eagle which he kept for twenty-five days Mr. P. M. Silloway states: "The bird became quite tame and allowed me to caress and handle it through the bars of its box."<sup>2</sup> I have myself found that the bold, unshrinking nature of the royal bird renders it easier to domesticate than some of the more nervous or timorous hawks.

Mr. James Inglis, above mentioned, informed me that the late Duchess of Sutherland had a tame Golden Eagle which was presented to her in 1866 when it was a year old. A Mr. McDonald first looked after the bird and could handle it in any way he chose. The eagle especially liked to be stroked under the wings, and gave vent to continuous little cries of approval when caressed in this manner. As is always the case, the bird was wild with strangers, and would strike viciously at them with one foot — the invariable method of attack. Later, this eagle was confided to the care of Inglis, and became on most friendly terms with him, until one day he secured it under a salmon landing-net in order that its house might be cleaned. From this time forward the bird was always suspicious of him, and never again resumed its former amicable relations. The eagle, which was a male, lived in perfect health for 23 years. At the end of that time it fell on its back in a kind of fit, after clutching a rabbit, and died two months afterwards. In reply to a question regarding this eagle Mr. Inglis further states *in lit*: "He moulted every year in May. There were six beautiful

---

<sup>1</sup> Country Life, Jan. 20, 1906.

<sup>2</sup> Birds of Fergus County, Montana, p. 31.

fluffy feathers about seven inches long under the tail, and I kept them every year for the Duchess. They were something like ostrich feathers but finer, and her Grace always wore them in her hat. Two of them were pure white, the other four had a small tip of yellow near the point."

In the recently published (1898) second edition of Mr. J. E. Harting's 'Hints on the Management of Hawks' there are three chapters devoted to the domestication, training, and employment of eagles in Falconry which are decisive on the point at issue. Suffice it to say that the Golden Eagle — described as "unerring in its flight" — is highly valued, habitually trained, and successfully employed for the pursuit and capture of foxes, wolves, deer, and antelope both in European and Asiatic Russia. Mr. Harting establishes the fact that this eagle is the well-known *Bergut* or *Kara Kush* (Black Bird) of the Kirghiz Tartars, as hinted by Prof. Newton,<sup>1</sup> although other species are also trained for a similar purpose. The epithet "Black" seems a misnomer for the mature bird, but is quite appropriate to the immature plumage, as pointed out by Mr. Harting, who reminds his readers that the Golden Eagle is described by Linnæus as *A. fulvus*, by Gmelin as *A. niger*, and by Pennant as the "Black Eagle."

Mr. Harting was personally acquainted with a French sportsman, Monsieur Maichin, who after much negotiation succeeded in purchasing a trained *Berkute* from a Kirghiz Falconer for the price of forty pounds (\$200) and a gun, and employed it for hawking foxes in France. Accounts of the achievements of this bird led Mr. Harting to suspect it was the Imperial Eagle (*A. heliaca*), and, being anxious to identify the species, he asked Mons. Maichin to accompany him to the British Museum of Natural History and there to point out his bird from among the mounted specimens in the collection. Without the slightest hesitation Mons. Maichin pointed to the Golden Eagle with the remark (in French): "There is *my* eagle, but not so big as mine." The same bird was subsequently acquired by a famous French falconer, Mons. Paul Gervais, who described to Mr. Harting how it was managed and flown. When the quarry was a fox the eagle invariably struck

---

<sup>1</sup> Dict. of Birds, p. 177.

and held with one foot, in the first instance, keeping the other in rest. This, it turned out, was a brilliant manoeuvre on the part of the bird, for the moment the stricken fox turned his head viciously to snap at the thing holding him, he received the eagle's spare foot full in the face, and was forthwith rendered powerless. "The strong and curved claws speedily muzzled him, and after a few desperate bounds in the air, he almost gave up struggling, being held as in a trap until the falconer ran up, and with his *couteau de chasse* gave him the finishing stroke." In parts of European Russia trained Golden Eagles are regularly exposed for sale and realize very high prices, being used on large game for which the Goshawk would be unsuitable. About the middle of the last century a Captain Green, of the British army, and resident in England, tamed and trained a Golden Eagle to catch hares and rabbits. Authentic accounts of this bird relate that it was "fairly tractable," but its "great weight and the difficulty of keeping it keen (owing to its power of fasting) made it too troublesome to manage satisfactorily." Evidently the Russian and Khirghiz falconers have overcome these difficulties. (See Harting, *op. cit.*, pp. 170-175.)

---

NOTES ON THE BROAD-WINGED HAWKS OF THE  
WEST INDIES, WITH DESCRIPTION OF  
A NEW FORM.<sup>1</sup>

BY J. H. RILEY.

EVER since the summer of 1904, when working upon a small collection of birds from Barbuda and Antigua, British West Indies, I have had in mind three specimens of immature hawks which were then provisionally (though doubtfully) referred to *Buteo platypterus*. Since then, they have been shown to numerous visiting and resident ornithologists, all of whom have declared they had never seen the immature northern bird in similar plumage.

---

<sup>1</sup> By permission of the Secretary of the Smithsonian Institution.

Last winter, upon Mr. Outram Bangs visiting Washington, I took advantage of the occasion to show them to him, whereupon he very kindly offered to send me his series from the Antilles for comparison. This he has now done, and I take this opportunity of extending my thanks, for without this series the following notes would have been impossible. Mr. Bangs's series of fifteen birds is a very fine one, embracing specimens from Cuba, Dominica, and St. Vincent, including the type of *Buteo antillarum* Clark. These, in conjunction with the series in the U. S. National Museum, have enabled me to examine over fifty specimens from the various parts of the range of this species, and it is to be hoped, settle the status of the West Indian forms.

After careful comparison of this material, I am prepared to recognize four forms of "Broad-wings" in the West Indies, as shown below.

1. *Buteo platypterus platypterus* (Vieillot).

- ? *Falco fuscus*<sup>1</sup> MILLER, Various Subjects Nat. Hist., Pt. 3, 1777, pl. 18.—SHAW, *Cimelia Physica*, 1796, 35, pl. 18 (North America).  
? [*Falco*] *fuscus* GMELIN, Syst. Nat., I, i, 1788, 280 (based on Miller pl. 18; not of Gmelin, p. 271).—LATHAM, Index Ornith., I, 1790, 43, no. 103 (same basis).  
? [*Falco*] *cinerascens* BECHSTEIN, Latham's allgemeine Uebersicht der Vögel, IV, 1811, 36 (based on Latham, Index, I, 43, no. 103).  
*Falco pennsylvanicus* WILSON, Am. Orn., VI, 1812, 92, pl. 54, f. 1 (near the Schuylkill, Penn.; not of Wilson, t. c. 13, pl. 46, f. 1).

<sup>1</sup> *Falco fuscus*, although commonly attributed to Gmelin, and supposed to represent the Sharp-shinned Hawk (*Accipiter velox* of American authors), was first proposed by J. F. Miller, in a work entitled "Various Subjects of Natural History etc." (so quoted by Engelmann, Bibl. Hist.-Nat., 1846, 182), usually referred to by Gmelin, Latham, and other early authors as "Miller's Illustr." *Falco fuscus*, from North America, is the subject of plate 18, and an examination proves it to be an immature *Buteo*, probably *B. platypterus*, but the tail is too fulvous, and the dark brown sub-terminal band is much too narrow. However, for an old plate, it is a fairly good representation of the Broad-winged Hawk, but by no stretch of the imagination can it be made to do duty for an *Accipiter*. As this plate is the sole basis of Gmelin's description, it follows that *Falco fuscus* of that author cannot apply to the Sharp-shinned Hawk.

Miller's work was issued in six parts, of 6 plates each, and plate 18 occurs in part 3, dated 1777. As the work is very rare, it may be worth mentioning that the plates (with the same names and notation), with some additional ones, were reissued in 1796, as the "Cimelia Physica," with enlarged text by George Shaw. Under this title the plates of Miller's 'Various Subjects' may be consulted in lieu of the rarer work. For much of the data on this subject I am indebted to Dr. C. W. Richmond.

- S[parvius] platypterus* VIEILLLOT, Tabl. Encycl. Méthod., III, 1823, 1273 (founded on Wilson, pl. 54, f. 1).
- F[alco] Wilsonii* BONAPARTE, Jour. Acad. Nat. Sci. Phila., III, April, 1824, 348 (based on Wilson, VI, 92).
- F[alco] latissimus* BONAPARTE, Journ. Acad. Nat. Sci. Phila., III, April, 1824, 348, footnote (same basis as preceding).—ORD, Wilson's Am. Orn., 2 ed., 1824, 92 (dated 1812, but for correct date, see Faxon, Auk, 1901, 217).
- Buteo pennsylvanicus* BONAPARTE, Comp. List Birds Europe and N. Am., 1838, 3.—BREWER, Proc. Boston Soc. Nat. Hist., VII, 1860, 306 (Cuba).—CABANIS, Journ. für Orn., II, Suppl. 1855, lxxxii (Cuba).—GUNDLACH, Journ. für Orn., 1861, 403 (Cuba), 1871, 366 (Cuba); Orn. Cubana, 1876, 41; Anales Soc. Esp. Hist. Nat. Madrid, VII, 1878, 160 (Porto Rico).
- [Buteo] pennsylvanicus* GUNDLACH, Journ. für Orn., 1861, 322 (Cuba).
- [Buteo] pennsylvanicus* GUNDLACH, Repert. Fis.-Nat. Cuba, I, 1865-66, 223; Journ. für Orn., 1878, 158 (Porto Rico).—CORY, List Birds W. I., 1885, 22 (part).
- B[uteo] pennsylvanicus* GUNDLACH, Anales Soc. Esp. Hist. Nat. Madrid, II, 1873, 99 (Cuba).
- [Buteo] pennsylvanicus* GUNDLACH, Journ. für Orn., 1874, 310 (Porto Rico).
- Buteo latissimus* LEMBEYE, Aves de Cuba, 1850, 19.—CORY, Auk, 1887, 40 (part); Birds W. I., 1889, 198 (part); Cat. Birds W. I., 1892, 99 (part).—GUNDLACH, Orn. Cubana, 1895, 21 (Cuba; habits, etc.).
- B[uteo] latissimus* LEMBEYE, Aves de Cuba, 1850, 127.
- Buteo platypterus* FAXON, Auk, 1901, 218.—A. O. U. COMM., Auk, 1901, 299.

A series of six adults (three males, two females, and one marked female, but probably wrongly sexed) from Cuba are uniformly clove brown above; with sides of neck, mantle, lesser wing-coverts, and scapulars rather strongly edged with cinnamon-rufous; below, the barring is cinnamon-rufous, heavier on the chest. Birds from the eastern United States exhibit apparently two phases of plumage; a light grayish brown backed bird with little or no reddish edges to the feathers, and with the bars below prout's brown; and a dark bird with the feathers of the sides of neck and upper back strongly edged with cinnamon-rufous, and the bars below of the latter color, heavier, and sometimes confluent on the chest. There are no individuals in the series from Cuba corresponding to the gray phase of the continent, but the dark phase is hardly or not at

all different from eastern United States examples. In size, the Cuban birds may average a trifle smaller, but not enough to warrant separating them as a race. Unfortunately there are no birds from Florida in the series examined by me, nor have I seen a specimen from Porto Rico, but judge specimens from the latter locality will not differ from Cuban examples.

Broad-winged Hawks from the United States usually have the irides brown, but Mr. Frank L. Burns writes me that they undergo many changes from pearl-gray of the young, to yellow and in one instance even red, and is inclined to think that the yellow irides are probably that of fully adult birds. In two apparently fully adult birds (one contained an egg ready for deposition, but was unfortunately broken by the fall of the bird) shot by Mr. William Palmer and me at San Diego de los Banos, western Cuba, the irides were brown, as in the majority of northern birds, but on the labels of three of Mr. Bang's specimens from eastern Cuba the color is noted as "straw yellow, with a brown wash." Gundlach<sup>1</sup> gives the color of Cuban specimens as "ochraceous with an inclination to dark gray," and in Porto Rican<sup>2</sup> specimens as "ochraceous-yellow, with a gray wash."

## 2. *Buteo platypterus antillarum* (Clark).

*Buteo pennsylvanicus* LAWRENCE, Proc. U. S. Nat. Mus., I, Oct. 15, 1878, 194 (St. Vincent); Feb. 13, 1879, 273 (Grenada); May, 1879, 487 (part).— LISTER, Ibis, 1880, 43 (St. Vincent).— ALLEN, Bull. Nuttall Orn. Club, V, 1880, 169 (Santa Lucia).— WELLS, List Birds Grenada, 1886, 6; Proc. U. S. Nat. Mus., IX, Feb. 11, 1887, 622 (Grenada; nest and eggs).— SCLATER, P. Z. S. London, 1889, 395 (Santa Lucia).

[*Buteo*] *pennsylvanicus* CORY, List Birds W. I., 1885, 22 (part).

*Buteo latissimus* CORY, Auk, 1887, 40 (part), 96 (Martinique); Birds W. I., 1889, 198 (part); Cat. Birds W. I., 1892, 99 (part; ? Martinique, ? St. Lucia, St. Vincent, Bequia, Cannouan, Carriacou, ? Barbados).

*Buteo antillarum* CLARK, Proc. Biol. Soc. Wash., XVIII, Feb. 21, 1905, 62 (Chateaubelair, St. Vincent; type coll. E. A. & O. Bangs); Proc. Boston Soc. Nat. Hist., XXXII, No. 7, Oct., 1905, 241 (descr.; habits; eggs).

---

<sup>1</sup> Orn. Cubana, 1895, 22.

<sup>2</sup> Anales Soc. Esp. Hist. Nat., VII, 1878, 161.

The bird named *Buteo antillarum* by Mr. A. H. Clark differs from the Cuban series principally in size, being smaller; in having the throat generally darker and the barring on the thighs averaging narrower; there are apparently no other differences.

Mr. Clark<sup>1</sup> gives the color of the irides of the St. Vincent bird as "yellowish white in all stages," and describes<sup>2</sup> the eggs as "dull bluish white in color and . . . unspotted," but Mr. J. G. Wells<sup>3</sup> says they are "buff color, spotted and blotched with reddish brown." This latter condition may be unusual, however.

The U. S. National Museum has an immature bird from Grenada, marked male, but probably a female, and an immature female from Tobago, which, though large for this form, probably belong to it, or are migrants from further north — an improbable supposition, as this hawk is not known to be a migrant in the West Indies, to my knowledge. Although I have only examined specimens of this form from two other islands of the Lesser Antilles, besides the above, I think I am safe in assigning the records from the following islands to it: ?Martinique, Santa Lucia, St. Vincent, Bequia, Mustique, Cannouan, Carriacou, Grenada, ?Tobago.

### 3. *Buteo platypterus rivierei* (A. H. Verrill).

*Buteo pennsylvanicus* LAWRENCE, Proc. U. S. Nat. Mus., I, July 30, 1878, 65 (Dominica).—SCLATER, P. Z. S. London, 1889, 326 (Dominica).

[*Buteo*] *pennsylvanicus* CORY, List Birds W. I., 1885, 22 (part).

*Buteo latissimus* Cory, Auk, 1887, 40 (part); Birds W. I., 1889, 198 (part); Cat. Birds W. I., 1892, 99 (part; Dominica).—G. E. Verrill, Trans. Conn. Acad. Arts and Sci., VIII, 1892, 325 (Dominica).

*Buteo (latissimus) rivierei* A. H. VERRILL, Addition[s] to the Avifauna of Dominica, no date, but published about Oct., 1905, p.—(Dominica; habits, etc.).

The series from Dominica are darker than specimens from St. Vincent, more sooty above, more heavily marked below, and with the bars darker, as has already been pointed out by Mr. A. H. Clark.<sup>4</sup>

<sup>1</sup> Proc. Biol. Soc. Wash., XVIII, 1905, 62.

<sup>2</sup> Proc. Boston Soc. Nat. Hist., XXXII, 1905, 243.

<sup>3</sup> Proc. U. S. Nat. Mus., IX, 1887, 622.

<sup>4</sup> Proc. Biol. Soc. Wash., XVIII, 1905, 63; Proc. Boston Soc. Nat. Hist., XXXII, 1905, 241.

In size there is very little difference between St. Vincent and Dominica specimens. This is probably a fairly well-marked insular form, depending upon its darker coloration for recognition.

Mr. A. H. Verrill, in his description of this form, gives the irides as "white or pale straw at all ages and in both sexes," and describes the eggs as "dull white, heavily washed and blotched with rufous, umber and grayish brown." If the measurements given by him are correct (1.80 by 1.50 to 1.85 by 1.55), the eggs seem to average smaller than eggs from the eastern United States.

#### 4. *Buteo platypterus insulicola* new subspecies.

*Buteo pennsylvanicus*? LAWRENCE, Proc. U. S. Nat. Mus., I, Dec. 10, 1878, 236 (Antigua).

[*Buteo*] *pennsylvanicus* CORY, List Birds W. I., 1885, 22 (part).

*Buteo latissimus* CORY, Auk, 1887, 40 (part); Birds W. I., 1889, 198 (part); Auk, 1891, 47 (Antigua; crit.); Cat. W. I. Birds, 1892, 99 (part; Antigua).

*Buteo platypterus* RILEY, Smithsonian Misc. Coll. (Quarterly Issue), XLVII, Nov. 8, 1904, 282 (crit.).

Type, U. S. National Museum, No. 119,349, male adult, Antigua, British West Indies, May 29, 1890. Collected by Cyrus S. Winch.

Frontal apex, lores, and a narrow line above and below the eye whitish, with some stiff black bristles; top of head and auriculars grayish brown, with darker shaft streaks; rictal streak darker; occiput white, with the feathers tipped rather broadly with sooty brown; back and rump blackish brown, the feathers of the upper back barred at their bases with white, and slightly edged with wood brown; upper tail-coverts black barred with white; tail black, tipped rather narrowly with dark drab and crossed by two rather wide white bars and an indication of a third that does not reach the shaft on individual feathers; scapulars color of the back, strongly barred with white for about two-thirds of their length, basally; primaries dull black on the outer web and tip, white on the inner web as far as the emargination on the outer feathers, but not reaching the shaft except at the base, the black increasing in area from the outer feathers inwards and turning to dark brown at the base and tip, leaving a large subterminal black band, a small black spot appearing on the inner web on the edge of the white of the second outer feather, increasing in number and intensity inwards on the other primaries, where they become interrupted bars not reaching entirely across the white to the inner web, however; secondaries and tertials grayish brown with a dull black subterminal band, the inner webs of the outer and the inner webs and bases of the inner feathers white, barred with dark brown; wing-coverts grayish brown; primary coverts dull blackish brown, irregularly barred with white on basal two-thirds of

inner webs, the white extending to outer webs at extreme base; lining of wing cream buff, sparsely spotted with small cinnamon spots; axillaries creamy white, with rather narrow bars of mars brown along the shaft; chin and throat white, with narrow dark brownish streakings; rest of underparts white, barred, spotted, or streaked comparatively lightly with mars brown, the streaking or barring heavier on the chest, decreasing on the abdomen, and ceasing entirely on the under tail-coverts; thighs narrowly barred with mars brown. Wing, 227; tail, 143; culmen, from cere, 18; tarsus, 56; middle toe, 28.5 mm.

Immature female.—U. S. National Museum, No. 191126, Antigua, B. W. I., Sept. 7, 1903. Collected by H. G. S. Branch.

Superciliary region and sides of face white, with a few fine brown streakings, these markings slightly heavier on the post-ocular streak, and more so on the rictal streak; lores, frons and top of head white, broadly streaked with blackish brown, the region in question having the appearance of being equally streaked with brown and white, the streaks much finer on lores and frons; cervix and sides of neck white, broadly streaked with sepia brown; mantle and rump sepia, the feathers narrowly edged with cinnamon-rufous, this edging more pronounced on the rump; upper tail-coverts white, barred with black; upper surface of tail white at the base, this color continuing a short distance down the shaft of the middle feathers, and down the inner web of the outer feathers almost to the tip, remainder of tail hair brown, narrowly edged with white at the tip, with a sub-terminal band of clove-brown, and four or five irregular bars of lighter brown; lesser wing-coverts sepia, with narrow edgings of cinnamon-rufous; middle and greater wing-coverts sepia, irregularly barred and edged with white and a little cinnamon-rufous; alula sepia, white on the inner webs of the feathers, with sepia barrings and some cinnamon-rufous edgings; primary coverts white at the base, on the inner webs, and edging at the tip, sepia on the outer web and inner web on terminal portion with just a trace of cinnamon-rufous, the inner web obsoletely barred with brown; primaries dark brown, darker on the outer feathers, and becoming lighter on the others towards the base, until the ground color of the whole feather gradually becomes uniform dark hair brown on the outer web, all (except the first) narrowly edged at the tip and rather broadly at the base on the outer web with white, the white on the outer web stippled with brown, the inner webs of all the feathers (as far as the emargination on the outer three, and further on the rest) white, barred with black; these bars extend across the brown of the outer but never reach entirely across the white of the inner web; secondaries dark hair brown, white on the inner web, and edged with white at tip and barred with black; tertials white, barred with sepia; scapulars white, barred and tipped with sepia; lining of wing pinkish buff, with a few faint shaft streaks at carpal joint; below creamy white, the jugulum crossed by a scattering band of sparse tear-shaped spots of sepia, the rest of the underparts almost immaculate, except for a few small scattering spots on the flanks, and a few hair lines of sepia on the breast; thighs creamy buff, rather sparsely marked with V-shaped sepia bars.

Another immature female, taken by Mr. Branch at the same time and place (U. S. National Museum, No. 191127), is darker on the back, the feathers more heavily edged with cinnamon-rufous; the markings below are slightly more numerous, and the tail is of a different pattern. The middle feathers are without bars except for the dark subterminal band; the other feathers of the tail are not essentially different from No. 191126, described above, except that the bars are obsolete on the outer web, and on the inner web of the pair next the middle feathers the bars become obsolete towards the base, being broken up into fine spots and stippling. The tail when closed is almost plain dark hair brown, tipped with lighter brown, and with a subterminal dark band, the extreme base white, stippled with brown. \*

A third immature female obtained on the same island by Mr. Branch (U. S. National Museum, No. 191128, Nov. 26, 1903), is darker than either of the specimens just described, and differs in the pattern of the tail, which is similar to that of the adult. Below, it has begun to acquire a few russet streaks on the chest; the thighs are almost without markings, but otherwise it is not essentially different from the other two.

*Remarks.*—In a large series of immature specimens of *Buteo p. platypterus* from various parts of its range, and of *B. p. antillarum* from St. Vincent, Grenada, and Tobago, and of *B. p. rivierei* from Dominica, I am unable to find anything approaching the three specimens above described.

The adult is much lighter and smaller than *B. p. antillarum*, and the bars below are narrower and less sharply defined. It is certainly a well-marked insular race, not coming into close contact with any of its relatives on the north or south.

The following table of measurements gives the averages in millimeters, for comparison. I have discarded a number of measurements where the sex was apparently incorrectly determined.

Males:	Wing.	Tail.	Culmen from cere.	Tarsus.	Middle toe.
4 adults from eastern U. S. . . . .	265.2	152.4	18	62.5	33.1
2 adults (unsexed) from Costa Rica . . . . .	269	154	18 <sup>2</sup>	61	33.2
3 adults from Cuba . . . . .	263.3	154.7	18.8	58.3	32.3
4 examples from St. Vincent <sup>1</sup> . . . . .	252.7	151.1	18.1	54.7	30.8
2 adults from Dominica . . . . .	257.5	151.5	19.2	59.2	31
1 adult from Antigua . . . . .	227	143	18.7	57.7	31

<sup>1</sup> 3 fully grown, but in immature plumage.

<sup>2</sup> One specimen.

<i>Females:</i>	Wing.	Tail.	Cul- men from cere.	Tar- sus.	Middle toe.
4 adults from eastern U. S. . . . .	282	160.8	19.5	58.5	32.7
1 <sup>1</sup> adult from Mirador, Vera Cruz, Mex.	293	167	—	61.5	33.5
1 <sup>1</sup> adult Chitra, Veragua . . . . .	280	163.5	20	64	30.5
2 adults from Cuba . . . . .	272	160.8	20.5	62	33.3
4 adults from St. Vincent . . . . .	265	153.9	18.6	56.2	32.5
1 adult from Dominica . . . . .	263	154	20	57	32.5
1 immature, marked male but probably female, Granada . . . . .	276	163	19.5	55.5	33.5
1 immature from Tobago . . . . .	271	171	—	60	30
3 immatures from Antigua . . . . .	252	149.2	18.7	57.7	31

## RECENT NOTES ON BIRDS OF EASTER. PENN- SYLVANIA.

BY RICHARD C. HARLOW.

THE ever changing conditions which are so rapidly encompassing large tracts of our commonwealth naturally necessitate faunal changes. The instinct of faunal distribution in many cases is sacrificed to the greater demand for congenial environment. In this respect different localities affect different divisions of bird life. Among the mountains of Pennsylvania, for instance, we find the element of the Canadian Fauna in the shape of numerous Warblers, Thrushes and Flycatchers steadily decreasing while about Philadelphia it is the Water Birds that have to bear the weight of the onslaught. The cutting off of the large timber has affected the Herons; the draining and filling up of the swampy areas has compelled the Rails to seek other localities, but the Land Birds live on, for the greater part unmolested.

Since Mr. Stone's valuable work on the 'Birds of Eastern Penn-

<sup>1</sup> Unsexed.

sylvania and New Jersey' was published in 1894 no great changes in the bird life of this region have been noticed. But as increased observation renders an increasing amount of valuable ornithological records, it has been deemed advisable by the writer to place on record the following notes, both as a record of present conditions and as a legacy for future reference. Eyesight records have been used at times when specimens were not available but only when the identification was carefully made under favorable circumstances and was practically undeniable. No attempt at an extended list has been made, the species noted being merely those of especial interest to the ornithologist. Practically all the varieties recorded in the following list were taken or observed within twelve miles of the city of Philadelphia and in the counties of Montgomery, Philadelphia and Delaware.

**Herodias egretta.** AMERICAN EGRET.—The Egret is now one of the rarest of Pennsylvania birds. In former years a few were noted annually in late July and August along the larger streams, but the species is now on the verge of extinction and as its appearance is usually heralded with a charge of shot, it is not likely to increase within our limits. I observed one of these magnificent birds at the Bristol Mill Pond on July 20, 1906, and on July 30, 1906, two were seen together on a pond near Ashbourne, Montgomery County. One of these was shot by a boy, and the wings and head afterward examined by the writer.

**Accipiter atricapillus.** GOSHAWK.—Large numbers of this hawk invaded Pennsylvania during the month of December, 1906, and not a few found their way into the hands of Philadelphia taxidermists. The writer secured one specimen on January 5, 1907, at Edge Hill, Montgomery Co., from a farmer who had the bird nailed to his barn. All birds seen were in fully adult plumage. The Goshawk is usually a rare winter visitant, but has a decided tendency to occur in 'waves.'

**Archibuteo lagopus sancti-johannis.** ROUGH-LEGGED HAWK.—In former years this was a common winter resident on the Delaware Meadows. It has frequently been reported by observers but very few specimens have been taken in recent years, and it is likely that not a few Rough-leg records have in reality been immature Red-tails. It is now an uncommon species.

**Falco columbarius.** PIGEON HAWK.—A Pigeon Hawk was shot by Mr. James Camblos at Fort Washington, Montgomery Co., in late September, 1904. Recognizing the rarity of the bird, Mr. Camblos had it mounted and later presented it to the writer. This specimen has the adult slate-colored back and is the only authentic record for this section in several years.

**Asio wilsonianus.** LONG-EARED OWL.—The Long-eared Owl seems to be more common in the last two years than formerly. It has been found to be a frequent winter resident within the city limits, while about Edge Hill it is a rather common bird in late fall and through the winter, and undoubtedly nests. Specimens in the writer's possession were taken January 6, 1907, and November 9, 1907. On November 9, 1906, I flushed nine of these owls from an oak sapling to which the dead leaves still clung. The ground beneath was littered with mice pellets.

**Asio accipitrinus.** SHORT-EARED OWL.—Frequent migrant and winter resident, occurring in small colonies wherever there is an abundance of field mice. Usually leaves by April 1. One observed at Edge Hill, April 19, and again May 28, 1907 (Auk, Vol. XXIV, pp. 438, 439). A specimen in my collection was taken December 6, 1907, at Bridesburg; most common in the river marshes.

**Nyctala acadica.** SAW-WHET OWL.—Contrary to the experience of most local ornithologists the writer has found this to be a not uncommon winter resident. Owing to its small size and unobtrusive habits it may be easily overlooked. Specimens have been examined which were taken at Oak Lane on October 25 and November 20, 1903; February 6, 1904, and October 28, 1905, while examples have been noted but not secured on January 2, 1905, and November 9, 1906.

**Nyctea nyctea.** SNOWY OWL.—This large wanderer from northern latitudes is taken annually in the vicinity of Philadelphia, its large size commanding instant recognition. It was especially common along with the flight of Goshawks in December, 1906, when a number were taken about and even in the city. All birds recorded were heavily spotted and no immaculate specimens have been seen from this locality.

**Sphyrapicus varius.** YELLOW-BELLIED SAPSUCKER.—Though

not infrequently recorded, this sapsucker was not met with as a winter resident until December 28, 1906, at Edge Hill, when one was observed at fairly close range but not collected.

**Melanerpes erythrocephalus.** RED-HEADED WOODPECKER.—In former years this species was considered as a rare bird during the winter season. Recent observations have shown that it winters regularly, if not commonly, in suitable localities in the counties of Philadelphia, Montgomery and Delaware.

**Sayornis phoebe.** PHOEBE.—One seen at Oak Lane on January 20, 1905, seems to be the only recent winter occurrence of the Phoebe, although I have seen it as late as December 25, 1907, this last year. Probably occurs regularly in small numbers during mild winters.

**Empidonax minimus.** LEAST FLYCATCHER.—The Chebec is given a place in the breeding birds of Montgomery County on the basis of my observations in 1906. On June 1, one heard in an apple orchard was supposed to be a late migrant. Passing that way again on July 3, 1906, the bird was again seen and while watched, was observed to feed a full-fledged young one, which was perched on an apple limb. Neither of them were secured but the record is indisputable and is the first for the breeding of this species in Montgomery County.

**Corvus ossifragus.** FISH CROW.—The Fish Crow appears to be spreading in the vicinity of Philadelphia where it may be found at all seasons of the year, in the winter mingling with the Common Crows and partaking of their habits. Nests most frequently along the Delaware and Schuylkill but frequently back from the rivers. A number build their homes in the parks in the very heart of Philadelphia. Probably more abundant on the Tinicum marshes to the south of the city than elsewhere. It was established as a breeder at that place on April 16, 1907, when the writer took a nest and five eggs along with the female.

**Sturnus vulgaris.** STARLING.—For years we have been waiting the occurrence of this bird in Philadelphia and now it has come. Whether or not it will prove an agreeable addition to our avifauna is an open question, but Philadelphia bird students have certainly watched for it longingly. Its first occurrence in the city was early in December, 1907, when Mr. Axe, of Frankford, informed us of

mounting two which were captured in that locality. Since that time several more have been noted in various parts of the city.

**Dolichonyx oryzivorus.** BOBOLINK.—Apparently extending its range to the southward. Formerly a characteristic bird of the Alleghanian and Canadian faunas, it has recently been found to be a fairly common summer resident in south-central Bucks County and within twenty miles of Philadelphia. Has been noted through the summer of 1907 on the Tinicum meadows.

**Agelaius phoeniceus.** REDWING.—Winter records are rare enough to make it desirable to mention a specimen taken at Tinicum, January 20, 1906, by Mr. Paul Lorrilliere.

**Euphagus carolinus.** RUSTY BLACKBIRD.—A not uncommon winter resident on the Tinicum meadows, usually noted in flocks. Perfectly regular.

**Pinicola enucleator leucura.** PINE GROSBEAK.—A flock of ten individuals was seen by the writer on November 18, 1903, and two specimens were secured but not preserved. One of these was a mature male. The birds were not shy, feeding in a catalpa tree and, when alarmed, took flight uttering their clear, musical whistle. The Pine Grosbeak is a very rare bird in this locality and this is the third record.

**Loxia leucoptera.** WHITE-WINGED CROSSBILL.—A flock of about eight crossbills of this species were seen in a clump of spruce trees, at Ashbourne on December 1, 1903. One specimen was secured.

**Acanthis linaria.** REDPOLL.—An erratic winter visitant. Occurred in flocks of immense numbers during late February, 1907, during which time it was noted at numerous localities about the city. I observed one flock of eight hundred or more on February 20 and secured seven specimens. This flock was still in the same locality on March 5. The habits and notes of the Redpoll are very similar to those of the Goldfinch. All the specimens secured are referable to this race. It is important, however, that all Pennsylvania Redpolls should be closely examined as there is a possibility of other forms being taken.

**Passerina nivalis.** SNOWFLAKE.—Erratic winter visitant usually occurring in "waves." A number of flocks were observed about Philadelphia during February, 1905. A small bunch of about twenty were noted on February 25 and 26 at Oak Lane.

**Calcarius lapponicus.** LAPLAND LONGSPUR.—One individual of this variety was observed on November 22, 1904, at Frankford, Philadelphia County, by Richard F. Miller. This is the third record from southeastern Pennsylvania, the others being one secured in 1849 by John Cassin, and a specimen taken by C. D. Wood in 1864 (Cassinia, 1906, p. 63). Though the specimen was not secured I have full faith in Mr. Miller's identification.

**Poecetes gramineus.** VESPER SPARROW.—A specimen secured at Edge Hill by the writer on December 28, 1907, makes an addition to the few winter records.

**Melospiza georgiana.** SWAMP SPARROW.—Generally supposed to be a scarce winter resident. Recent developments have shown that they winter abundantly and regularly on the Tinicum meadows.

**Pipilo erythrophthalmus.** CHEWINK.—A rare winter resident. Specimens observed at Tinicum, December 18, 1905, and January 20, 1906.

**Riparia riparia.** BANK SWALLOW.—At the time of publication of Mr. Stone's book, this was thought to be a rare breeder. It is now ascertained to be an abundant though local summer resident. Colonies breed at Ridley Park and Chester, Delaware County.

**Lanius borealis.** NORTHERN SHRIKE.—Observed one specimen on February 22, 1905, at Oak Lane.

**Lanius ludovicianus migrans.** MIGRANT SHRIKE.—One specimen referable to this race was taken at Edge Hill, on December 1, 1906, by the writer.

**Dendroica discolor.** PRAIRIE WARBLER.—Several specimens were observed on September 18 and 19, 1907, and one immature female was secured which is now in the writer's collection. Notwithstanding the fact that the Prairie Warbler is a common summer resident across the Delaware, in New Jersey, it is at all seasons a rare bird at Philadelphia. Apparently more common in spring than fall. The above specimen seems to be the only fall record for Montgomery County.

**Geothlypis agilis.** CONNECTICUT WARBLER.—Erratic fall migrant. No recent spring captures. The Connecticut Warbler was exceedingly common in the fall of 1907, and specimens were secured on September 18, 19 and October 7. All birds examined were exceedingly fat.

***Geothlypis philadelphia*.** MOURNING WARBLER.— One individual of this bird was observed at close range at Edge Hill on May 12, 1907, and another at Oak Lane on May 31, 1907. These are my only records of this species and the bird will have to be regarded as a very rare migrant. Both identifications were made with great care.

***Sitta canadensis*.** RED-BREASTED NUTHATCH.— This erratic bit of bird life was unusually abundant in the fall of 1906, and from September until late November was seen on practically every field trip. These periodical invasions of Red-breasted Nuthatches seem worthy of note. The last one of any size occurred in 1903. For several years the bird will be rare and then, again, take a place among our common transients.

***Hylocichla fuscescens*.** WILSON'S Thrush.— The Veery formerly nested in the vicinity of Glenside, Montgomery County, which is the most southern locality of its breeding in Pennsylvania. Several times in the past two years the writer has heard in June and July notes which he was practically sure belonged to this bird but was unable to secure any specimens.

---

## BIRDS OF DELAWARE — ADDITIONAL NOTES.<sup>1</sup>

BY C. J. PENNOCK.

THE 'Preliminary List of the Birds of Delaware,'<sup>2</sup> was intended to embrace such species only as had come under the observation of the authors or for which they could find positive record of an occurrence within the State. On account of the limited amount of time that had been devoted to the work previous to the appearance of that list it was evident that many species of birds remained to be noted and some species recorded therein as rare might become apparently more abundant after further observations.

---

<sup>1</sup> Read at the meeting of the American Ornithologists' Union, Philadelphia Pa., Dec. 12, 1907.

<sup>2</sup> See 'The Auk,' Vol. XXII, No. 2, April, 1904, pp. 194-205.

The present paper is intended to present a list of such birds as have not previously been recorded from Delaware and to offer notes on some other species that seem to be of especial interest. Referring first to species not previously recorded:

1. The RED-HEADED WOODPECKER (*Melanerpes erythrocephalus*) and (2) MAGNOLIA WARBLER (*Dendroica maculosa*) were omitted from the 'List' inadvertently. Both are of course common birds in Delaware. The Woodpecker is usually resident throughout the entire State and at times is locally abundant. Over at least the lower half it is generally to be seen in suitable localities; the large undrained timbered areas offering attractive feeding grounds for this bird as well as for other members of the family. The countrymen generally are familiar with this bird, and its vernacular name of "Shirt-tailer" is in recognition of the noticeable white patch so prominent in a rear-flight view.

The Magnolia Warbler is a common spring and fall migrant.

3. LAUGHING GULL (*Larus atricilla*).—Undoubtedly this bird was an abundant summer resident, at least from Lewes down along the coast to Fenwick Light, at the Maryland line, up to the time of the extermination of our shore-nesting birds, twenty or more years ago. Many of the younger generation of native gunners do not know this bird at all. As they are now found nesting locally in some places on the Atlantic coast considerably to the north, they probably pass up along the sea coast of Delaware, and closer observation should discover them more frequently than has yet been done. I saw two Laughing Gulls May 20, 1907, flying northward at Indian River Inlet. My two companions, native fishermen, were not familiar with them as birds usually to be seen in that locality.

4. FORSTER'S TERN (*Sterna forsteri*).—On May 14, 1905, I shot a female Forster's Tern as it sat on a sand-bar in Indian River Bay near the Inlet. Another bird of apparently the same species and numbers of Least Sandpipers were feeding together at the time.

5. AMERICAN MERGANSER (*Merganser americanus*).—Presumably a rather abundant winter resident. I have noted several seen May 8, 1906, flying up the coast at Rehoboth, and two birds near Ocean View May 21, 1907.

6. RED-LEGGED BLACK DUCK (*Anas obscura rubripes*).—I have

a specimen shot near Odessa about November, 1898. Another was shot May 13, 1905, on Indian River Bay, but it was a cripple, probably gun-shot in the early spring. The gunners of Indian River country recognize the distinction in the two Black Ducks. They state that the "Nigger" Black Duck, as they style it, is the smaller and frequently nests with them, while the larger bird which they call "Red-Paddle" never breeds thereabouts.

7. TRUMPETER SWAN (*Olor buccinator*).—In Bulletin No. 26, of the Biological Survey, page 86, Mr. Cooke states: "During its migrations it occasionally strays to the Atlantic slope," and brackets a record (November 9, 1886, Lincoln, Del.).

8. PECTORAL SANDPIPER (*Actodromas maculata*).—There is a specimen in the Bush collection at Wilmington taken in the State several years ago, about 1878. Probably occurs at the present time as a spring and fall migrant.

9. HUDSONIAN GODWIT (*Limosa hæmastica*).—On May 8, 1906, I saw a pair of these birds on a marsh a mile north of Rehoboth. I have heard gunners occasionally speak of seeing "Marlin" but have found no specimen in any collection.

10. AMERICAN OYSTER-CATCHER (*Hæmatopus palliatus*).—Seemingly rare at the present time. I recently saw a handsome mounted specimen in a small collection of birds near Wilmington. This bird had been shot in early summer of 1862 at or near Port Penn, on the Delaware River, about 20 miles south of Wilmington. I have no recent record.

11. AMERICAN ROUGH-LEGGED HAWK (*Archibuteo lagopus sancti-johannis*).—Mr. Oberholser has called my attention to a Delaware record for this bird in the 'Catalogue of the Birds in the British Museum', Vol. I, p. 198, 1874. No date is given for the capture. A black hawk was caught in a steel trap near Stanton, in the northern end of the State, on February 7, 1902, and another was taken in a similar manner near the same place "at an earlier date." Both these birds are preserved.

12. GOLDEN-WINGED WARBLER (*Helminthophila chrysoptera*).—Mr. Lyman, near Wilmington, has a male taken May 13, 1900. Presumably they are regular spring and fall migrants.

13. CONNECTICUT WARBLER (*Geothlypis agilis*).—Probably not uncommon as a fall migrant. I usually see them more or less

abundant near my home, three miles north of the Delaware State line, during September and early October. I saw two near Delaware City September 3, 1906.

14. WILD TURKEY (*Meleagris gallopavo silvestris*).— This bird of course long ago disappeared as the country became settled. It was undoubtedly abundant during at least the first half of the seventeen hundreds along the fresh water streams of the upper portion of the State. Hesselius, the Swedish preacher, relates the sport to be had shooting the entire flock from trees, by moonlight, during his pastorate at Wilmington, from 1712 to 1724.

15. PASSENGER PIGEON (*Ectopistes migratorius*).— Like the Wild Turkey, but at a later date, the Wild Pigeon has gone from Delaware. Pastor Hesselius records their abundance previous to 1724, and down to 1870 or a little later, I am advised, by the older inhabitants, they were not uncommon in the fall and early spring. There have been quite recent reports of the appearance of this bird in the State, but none sufficiently reliable to record.

Since preparing the original 'List' additional notes have been made on the following:

WHISTLING SWAN (*Olor columbianus*).— "Swans" are reported as not rare, but seldom shot, about Indian River Inlet. One was taken late in the winter (February ?), 1906, probably this species.

GREAT BLUE HERON (*Ardea herodias*).— I have found two small colonies of these birds; one, said to be of long standing, was visited in 1906. At least ten or twelve pairs of birds were nesting, but as wood-choppers were then nearly completing the destruction of all large timber, future nesting there was improbable. A second colony was visited in 1906 and 1907, about ten miles south of Wilmington. On both occasions I estimated there were at least 25 occupied nests, by actual count 52 nests,— as many as 16 nests on one large spreading oak. Several nests of this colony were in the tops of trees, and as they were occupied before the leaves had formed, they were plainly visible at a distance of nearly one mile. I visited this colony April 29, 1906; several nests contained eggs; a set of 4 were perfectly fresh, but there was evidence that many of these nests had been robbed at an earlier date. April 20, 1907, old birds were on nests. April 28, 1907, they were observed to be

feeding young. A severe rain-storm in early May destroyed a large number of the young after they were able to crawl around the tree-tops.

**AMERICAN EGRET** (*Herodias egretta*).—There are several recent records. In place of "straggler," as previously recorded, they appear to be rather common in midsummer and may breed occasionally. Mr. Hensel, late of near Stanton, and a close observer, believed a few formerly bred in New Castle County, and I have been so informed by others but have no positive record.

**RUFFED GROUSE** (*Bonasa umbellus*).—Hesseliuss refers to this bird as abundant in his day. The old residents of northern New Castle County tell me that up to about 1865 or 1870 they were "rather common" in suitable localities,—Ashland, Mt. Cuba, and on the rough, rocky, wooded hill slopes of the Brandywine and Red Clay Creeks.

**AMERICAN BARN OWL** (*Strix pratincola*).—In suitable localities, near large marshes, this owl seems to be rather abundant.

**ACADIAN OWL** (*Nyctala acadica*).—Mr. Geo. Hensel had three specimens taken near Stanton, one during the winter of 1906-07, the others earlier.

**BLUE GROSBEAK** (*Guiraca cærulea*).—Mr. Hensel had a mounted male bird, shot several years ago near Delaware City, from a bunch of three or four. I saw a male by the roadside near Lewes on May 7, 1906, and I believe they are not rare in the lower end of the State.

**SUMMER TANAGER** (*Piranga rubra*).—I found a mounted specimen in the Hensel collection shot several years ago near Stanton. Mr. Hensel believes they nested in that locality, which is well up to the northern end of New Castle County.

**LOGGERHEAD SHRIKE** (*Lanius ludovicianus migrans* ?).—"May breed occasionally" was formerly stated: Mr. Hensel told me that two pairs nested in a hedge by the roadside near Delaware City in 1862. My own records are all for September, October and November of various years.

To complete the record I include four introduced species:

1. "ENGLISH" PHEASANT (*Phasianus colchicus* ?).—Several pairs were purchased and distributed over the State, a few years ago, by the Delaware Game Protective Association, but it is believed they have not survived.

2. EUROPEAN SKYLARK (*Alauda arvensis*).—In the U. S. Agricultural Report for 1853 is an account of an importation of these birds liberated near Wilmington, by a Mr. John Gorgas, who believed that in the following summer they were becoming settled. There is no recent reference to this bird.

3. STARLING (*Sturnus vulgaris*).—A male bird was shot near Odessa, about 1901, from a flock that was seen several times.

4. HOUSE SPARROW (*Passer domesticus*).—A pestiferous nuisance everywhere.

In the 'List' as issued it was stated that no hemlocks had been observed in Delaware. Later I found a few growing five to six miles west of Wilmington on Red Clay Creek and I have recently been informed that Dr. Chas. S. Sargent, in 'The Sylvia of North America,' Vol. XII, p. 64, states that "Southward it ranges through the Northern States to New Castle County in Delaware."

From the foregoing notes and additional evidence, I am led to believe there was good grounds for the statement made in the 'Preliminary List,' to the effect, that the broad waters of the Delaware Bay, acting as a barrier, may explain the appearance of certain birds, much further to the north in Delaware than they are found in New Jersey and on up the Atlantic coast. The Mockingbird was noted as a case in point, and as now appears we can add the Blue Grosbeak, Summer Tanager, Cerulean Warbler, Yellow-throated Warbler, Prothonotary Warbler and Brown-headed Nuthatch.

These birds are all regular summer residents in southern Delaware, and, with the exception of the Yellow-throated Warbler and Brown-headed Nuthatch, are found well up into the central part of the State or beyond, considerably above the latitude of Cape May, N. J.; while in New Jersey I believe every one is extremely rare and, in later years at least, are not found in New Jersey and northward except as stragglers.

The following notes have been made since the above record was read at the Annual meeting of the American Ornithologists Union, Dec. 12, 1907:

16. HOODED MERGANSER (*Lophodytes cucullatus*).—I saw four of these birds on the Bay near Lewes, Dec. 29, 1907.

IPSWICH SPARROW (*Passerculus princeps*).—Two were observed back of the sand dunes near Lewes Dec. 29, 1907, and on the following day Dr. Spencer Trotter of Philadelphia, Penn., saw twelve or more in the same locality, four of which were shot.

## SUMMARY.

Previously recorded . . . . .	211 species
Now recorded . . . . .	16 "
<hr/>	
Total native species recorded . . . . .	227 "
Introduced species recorded . . . . .	4 "

THE CASE OF *STRIX* VS. *ALUCO*.

BY J. A. ALLEN.

THE proper type of the Linnæan genus *Strix* has repeatedly been under discussion, the last time, so far as I am aware, by the late Dr. Coues in 'The Auk' for January, 1900 (XVII, pp. 65, 66), where he says: "This is a case on which the last word does not appear to have been said. . . . It involves not only two generic, but also two family names."

It had previously been discussed in 'The Ibis' by Salvin,<sup>1</sup> Sharpe,<sup>2</sup> and Newton,<sup>3</sup> and also by Newton<sup>4</sup> in his edition of Yarrell, and in his 'Dictionary of Birds' (1894, p. 673), and by Coues in the fourth (1884) edition of his 'Key' (p. 500, 508). Newton and Coues reached the same conclusions, which were in opposition to the view almost universally accepted by other ornithologists.

The commonly recognized type of *Strix* is *Strix flammea* Linn. 1766. The genus *Strix*, however, was founded by Linnæus in 1758, but at that date did not include *Strix flammea*, which was

<sup>1</sup> Ibis, 1875, pp. 66, 67, footnote.

<sup>2</sup> Contributions to a History of the *Accipitres*. The Genus *Strix* of Linnæus, and its Type. Ibis, 1875, pp. 324-328.

<sup>3</sup> Ibis, 1876, pp. 94-104.

<sup>4</sup> Yarrell's British Birds, ed. 4, I, 1872, pp. 146, 150, 194, 198.

not published till 1766 (10th ed. Syst. Nat., p. 133). Therefore *Strix flammea* cannot be the type of *Strix*, it being not one of the originally included species. For the few who still take 1766 as the date of the beginning of zoölogical nomenclature this is no objection; and it is probably due to the former wide acceptance of this date as the starting point that the recognition of *Strix flammea* as the type of *Strix* has become so ingrained in ornithological literature.

But there is another way in which *Strix flammea* has been construed as the type of *Strix*, namely, by taking *Strix aluco* Linn., 1758, as an earlier name for *Strix flammea* Linn., 1766, as has been done in the 'A. O. U. Check-List of North American Birds,' from the first edition in 1886 to date,<sup>1</sup> and which determination of *Strix aluco* I followed in my recent papers on the types of North American genera of birds, without looking up the matter for myself. Dr. Stejneger, however, having recently called my attention (in conversation) to this point, I have been led to go carefully into the matter, with the results here detailed. While they agree perfectly with the conclusions reached by Newton and Coues, they are based primarily on different grounds, as the foregoing statements show; at least as regards Dr. Coues, who assumed *Strix aluco* Linn., 1758, to be the same as *Strix flammea* Linn. 1766, and as a different species from *Strix aluco* Linn. 1766.

*Strix aluco* Linn., 1758, is a composite species, including both the Barn Owl and the Wood Owl or Tawny Owl of Europe. His first reference under *Strix aluco* is to Faun. Suec., 1746 ed., p. 17, No. 48, which is the Tawny Owl pure and simple, as shown by the quite full description there given, not one of the characters applying to the Barn Owl, but each unmistakably to the Tawny Owl, and where also all the citations of other authors there given relate to it. This is also the basis of *Strix aluco* Linn., 1766, which everybody admits is the Tawny Owl. At 1758, however, Linneus gave references under *Strix aluco* to Willoughby's, Ray's, and Albin's unmistakable descriptions and figures of the Barn Owl. Those who have identified *Strix aluco* Linn., 1758 with the

<sup>1</sup> This was also done by Coues in 1884 (Key, 4th ed.) and in 1900 (Auk, 1900, p. 66), at which later date he says: "*S. aluco* Linn. [S. N., I, 10th ed., 1758], p. 93, sp. No. 6, is the Barn Owl, as shown by the references."

<sup>2</sup> Bull. Amer. Mus. Nat. Hist., XXIII, 1907, p. 333; *ibid.*, XXIV, 1908, p. 39.

later *Strix flammea* have done so by making these references the basis of their determination instead of the first reference, to the Faun. Suec., where Linnæus himself shows unmistakably the species he intended to indicate by the name *Strix aluco*; and also later (12th ed. Syst. Nat., 1766) by making these same references to Willoughby, Ray, and Albin the principal basis of his *S. flammea*, and restricting *Strix aluco* to No. 48 of the Fauna Suecica.

As *Strix flammea* proves untenable as the type of *Strix*, and as *Strix aluco*, 1758, is not an earlier name, in any proper sense, for *S. flammea*, what then is the type of *Strix*? As *Strix* was not monotypic, and the type was not indicated by the author, the determination of the type necessarily depends upon the action of some subsequent author, or comes into the category of "Cases in which the generic type is not accepted *solely* upon the basis of the original publication."<sup>1</sup>

The first author to divide the Linnæan genus *Strix* was Brisson, who in 1760,<sup>2</sup> separated it into two genera, *Asio* and *Strix*. The type of *Asio* is *Asio asio* Brisson (= *Strix otus* Linn.), and the type of *Strix* is *Strix strix* Brisson (= *Strix aluco* et *stridula* Linn.), on the principle of tautonymy. The type of *Strix*, on the basis of further 'subsequent designation,' is also "*Strix aluco* Linn. ed. 10," on the basis of the A. O. U. Check-List (1886), although the species was there evidently misidentified. Thus *Strix* will replace *Syrnium* Savigny, 1809 (type, *Syrnium ululans* Savigny = *Strix aluco* Linn.).

A substitute for *Strix*, in its currently accepted sense, is found in *Aluco* Fleming, 1822, with *Strix flammeus* Fleming<sup>3</sup> (= *Strix aluco* Linn.) as type by original designation, as long ago maintained by Newton (1874-1894) and Coues (1884-1900).

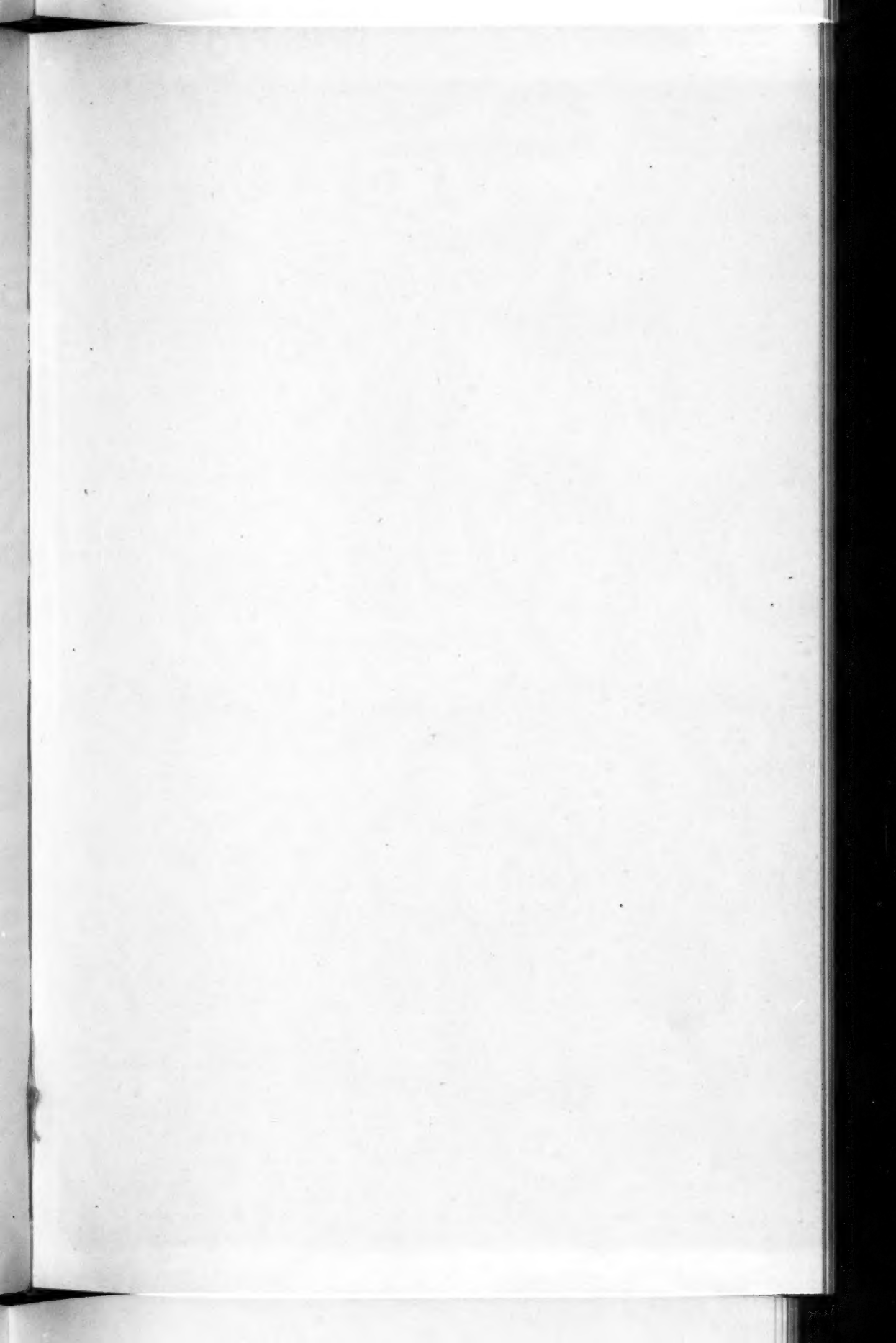
It hence follows that the family name Strigidae must be transferred to replace Bubonidae, as was done by Coues in 1884; while the current family name Strigidae must be replaced by Aluconidae Coues, 1884 (= subfamily Alucinæ Newton, 1894).

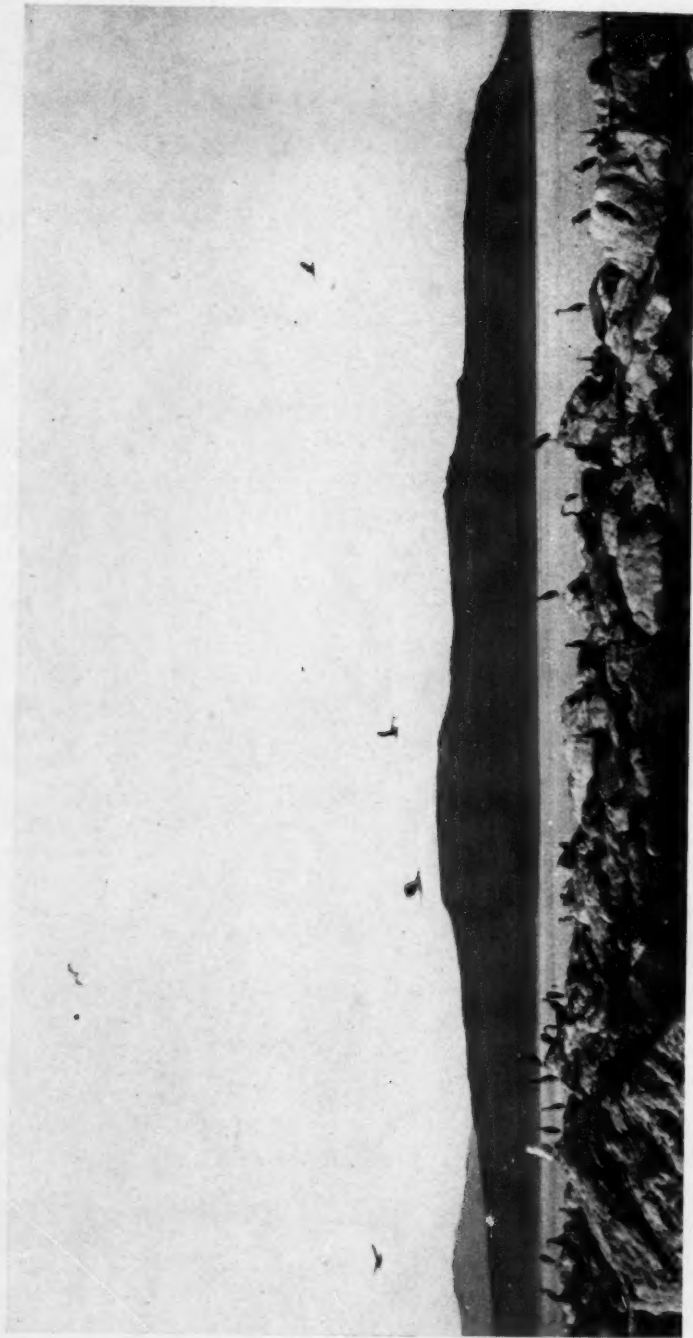
Since the name *flammea* Linn., 1766, is preoccupied by *Strix flammea* Pontoppidan, 1764, for the Short-eared Owl (*Strix accip-*

<sup>1</sup> International Code of Zoological Nomenclature, Art. 30, adopted August, 1907.

<sup>2</sup> Orn., I, 1760, pp. 28, 477, 492.

<sup>3</sup> Fleming, Philos. Zool., II, 1822, p. 236.





EGG ISLAND, GREAT SALT LAKE, UTAH.  
Nesting colony of Great Blue Herons, Cormorants and Gulls.





NEST AND EGGS OF GREAT BLUE HERON (LOWER NEST)  
AND DOUBLE-CRESTED CORMORANT (UPPER NEST).



NEST AND EGGS OF GREAT BLUE HERON.

*itrina* Pallas, 1771), it is necessary to find another name for the Barn Owl, for which the earliest available name appears to be *Strix alba* Scopoli (Ann. I, 1769, p. 2). For those who consider the North American Barn Owl as a subspecies of the European, the name for the American form will be *Aluco albus pratincola* (Bonap.).

---

## TREGANZA BLUE HERON.

BY EDWARD J. COURT.

### *Plates V and VI.*

THIS subspecies has been under my consideration for some time and through Mr. A. O. Treganza, Salt Lake City, Utah, I obtained a specimen, and I have honored him by naming the species *Ardea herodias treganzai*, Treganza Blue Heron.

I wish to express my best thanks to Mr. Harry C. Oberholser, Biological Survey, Agricultural Department, Washington, D. C., who greatly assisted me in describing the subspecies; also to Mr. Robert Ridgway, Smithsonian Institution, who agreed with me that it was a good race; and to Dr. Charles W. Richmond, Smithsonian Institution, for access to the large and handsome series of Great Blue Herons.

### *Ardea herodias treganzai*, new subspecies.

*Subspecific characters*:—Similar to *Ardea herodias herodias*, but much paler on the neck and upper parts; resembling *Ardea herodias wardi*, but smaller and even paler.

*Type*:—♀ adult, No. 208756, Smithsonian Institution, Egg Island, Great Salt Lake, Utah; collected April 10, 1907, by Mr. A. O. Treganza.

Forehead and crown white; superciliary stripes black, connecting behind with the black crest, middle feathers of which are 183 mm. in length; lores and ear coverts white; sides of neck very pale cinnamon rufous; interscapular and scapular regions pale bluish slate changing to a silver bluish gray towards ends of feathers; rump deep bluish; tail terminally

bluish black; under tail coverts pure white; bend of wing bright chestnut mixed with white; upper wing coverts and secondaries bluish becoming darker where they overlap the ends of the primaries; primaries bluish black; under wing and primary coverts and axillaries bluish; postocular region, chin, cheeks, and throat white gradually changing into pale cinnamon rufous, the median line formed by a distinct row of black, white and bright reddish chestnut brown feathers; breast and abdomen broadly streaked with white; flanks dark bluish slate; thighs deep reddish brown; bill black.

*Geographical distribution*:—Great Salt Lake, Utah, Arizona, Texas, and California.

MEASUREMENTS OF *Ardea herodias treganzai*.

Smithsonian No.				Wing.	Tail.	Cul- men.	Tar- sus.	M. Toe.
9472	—	Sacramento Valley, Cal.	—	469.9	178	140	180	109
11706	♀ ad.	Fort Clark, Texas	Jan. 24, 1898	463.5	171	140	172	102
125820	♀ ad.	Mexico, near El Paso, Texas	Feb. 27, 1892	476.2	172	133	172	101
131506	♀ ad.	Fort Lowell, Ariz.	Nov. 7, 1893	467.3	178	140	177	105
133029	♀ ad.	Colorado River, Monu- ment No. 204.	Mar. 22, 1894	469.9	171	142	165	100
133775	♀ ad.	Gardiners Lagoon, Cal.	Apr. 14, 1894	469.9	175	148	165	102
208756	♀ ad.	Gt. Salt Lake, Utah	Apr. 10, 1907	469	177	135	173	108

Average Measurements.

	Wing.	Tail.	Culmen.	Tarsus.	M. Toe.
<i>Ardea herodias treganzai</i>	469.5	174.5	139.5	172	104
<i>Ardea herodias</i>	483.5	178	146	181	108
<i>Ardea herodias wardi</i>	506	193	169	204	124

I am indebted to Mr. Treganza for the following field notes.

Salt Lake City, Utah.  
December 4, 1907.

FRIEND COURT:—

The following is a copy of the field notes on the *Ardea herodias* and a slight description of the different islands where I have found this species breeding, in this locality, with a series of photographs.

White Rock Island is an almost solid body of quartz, about 175 feet by 100 feet, rising sheer out of the water on three sides. Extreme height about 25 feet. Located about one-half mile off shore, in a small cove on the north-west end of Antelope Island, Great Salt Lake, Utah.

White Rock, May 15, 1905. Eight pairs found breeding. Four nests contained young; one nest contained both young and eggs; the remaining three nests contained eggs badly incubated. Four other nests were found from which the young had but recently gone. One set of four eggs taken.

Nests composed of sticks, principally of the sage bush, and placed in a rather loose sort of manner between two points of rocks or small hollows. Little or no difference seems to be made in the composition of the inner

and outer nest; in fact there is really no inner nest or lining, and the depression which receives the eggs and contains the young is very slight. The carcass of fish are very plentiful about nests containing young.

The old birds were very retiring, remaining over on the shore of Antelope Island while we were on the White Rock. Nesting in company with *Larus californicus*.

*White Rock*, May 10, 1906.— Same number of nests as were found May 15, 1905, except that all nests were occupied by either young or eggs.

*Hat Island*.— The name well describes its form as it appears from a distance. It lies about twenty-five miles due west of White Rock Island and four miles north of Carrington Island, on the west side of the Lake. Three fourths and one half mile are its greatest dimensions, length and breadth. Rises about 90 feet above water line. Formation, decomposed rock, boulders, and sand. Thorny sage and weeds are about the only vegetation to be found.

*Hat Island*, May 8, 1906.— Found a colony of forty pairs. All stages of nidification existed, except nest building. There seems to be a decided difference in the disposition of the young. Some show signs of fight as soon as you make your presence known, while others pay little or no attention to your doings.

The nests here are placed, some on the rocks and some on top of the large thorny sage bushes which grow from 4 feet to 5 feet high. Some of the nests are very beautiful, being built out of sage branches that have been exposed to the elements until they have become a most subtle gray tone, that fairly vibrates under sunlight. Some of the nests measure from 4 to 5 feet in diameter.

The nearest feeding ground for these birds is the mouth of the Jordan River, some thirty-five miles, almost due east of the island. The flight to the feeding grounds begins about 3 A. M., and by sun-rise all the birds that are going for that day have left the island, except a few isolated cases which may be seen going and coming all day long, the main body returning so that they reach the island by sun-down. Some of these birds travel fifty or sixty miles from the island for food.

A certain portion of the birds always remain on the island during the day. Even were it not for the incubation of the eggs and the care of the young, this would be made necessary through the fact that as soon as a nest of eggs is left unprotected it is immediately pounced upon by the *Larus californicus*, who crack the eggs by pecking and feed on their contents.

Here *Ardea herodias* is nesting in company with *Larus californicus* and *Pelecanus erythrorhynchos*.

*Hat Island*, Sept. 10, 1907.— Not a Blue Heron to be found on the island. Neither have we found a nest of addled eggs. The birds must have been very successful in the rearing of their young or else the Gulls devoured anything that might have been left.

Much to our surprise we found there had been a tremendous increase in

the number of nests over those which we found last year. On May 8, 1906, we found birds nesting only on the east and northeast end of the island. This year we find that they have circled the island with their nests, with the exception of the southwest end, which is rather sandy and barren of sage and boulders.

*Egg Island* is a detached reef at the extreme north end of Antelope Island, 300 feet or more in diameter, about one-half mile off shore. Composed mostly of reef rocks but with some little sand patches.

*Egg Island*, May 11, 1906.— Here the *Ardea herodias* nests in company with *Larus californicus* and *Phalacrocorax dilophus*. This island contained about fifty breeding pairs. All stages of nidification existed except nest building. The nearest feeding ground for the birds on this island is about fifteen miles.

The nests on this island are all placed on the higher boulders among the reef rocks, usually beside a large boulder. The boulder is used as a perch for the owner of the nest beneath. Apparently the birds consider this boulder as much a part of their possession as the nest, for should another attempt to alight on a perch that is not his own, he is immediately and properly punished for his trespassing. Such an occasion as this is the only time I have ever seen the adult birds show any signs of quarreling.

Some of the nests on this island are very handsomely and wonderfully made, two or three nests measuring each about 5 feet in diameter. Most of the sticks used in constructing the nest are of the sage bush. Apparently these nests are very old and have been used for many years, a little bit being added each year in the way of rebuilding and house cleaning. It seems quite remarkable that the young do not injure themselves from the large, coarse sticks which form the inner nest, if the same could be called an inner nest. The depression of the nests is very slight. The depression starts from the outer edge of the nest and very gradually sinks into the center.

The birds on this island seem to be more filthy than those seen elsewhere. By the time the entire clutch of eggs is laid, the first two or three eggs laid are entirely speckled over the surface with lice markings. Upon lifting up eggs that are in an advanced stage of incubation, the center of the nest seems to be a seething mass of lice, which must undoubtedly greatly annoy the young when hatched.

Four, five, and six eggs seem to form the complete set, four or five being the usual complement, six rarely. A number of photographs were taken on this date of both young and eggs.

*Egg Island*, April 9, 1907.— I do not wonder that some of the young are fully fledged and leave their nests before the middle of May, as we found three nests containing young from three to four weeks old.

About twenty-five nests contained fresh eggs. None of the eggs seemed to be at all incubated; hence there must have been several exceptionally early arrivals. There seemed to be a number of new nests under construction. Two birds killed for identification. Several photographs taken.

*Egg Island*, May 16, 1907.—I find about fifty per cent. more nests on the island this year than last, or, in other words, about seventy-five pairs of breeding birds have nested there. There are only about five sets of fresh eggs. All the other nests either contained young or eggs well advanced in incubation.

The young are extremely interesting, especially those that are sufficiently fledged to walk about upon the rocks but are yet too timid to attempt flight. The photograph taken gives a very good idea of how close one can approach these almost fully fledged birds. The photograph was taken at a distance of about 6 feet.

*Egg Island*, Sept. 14, 1907.—Not a Heron left, but a count of the nests shows about fifty per cent. increase over last year.

*General Remarks.*—On first observation the nests of the Great Blue Heron appear very flimsy, especially the edges, which seem to be very much frayed out and loose. One would think that the storms of a winter would entirely demolish these nests, but on close observation it is found that they are most compactly made, and it is quite evident that the same nests are used from year to year with but very little rebuilding in the spring. One can very easily tell where new sticks have been added, from the fact that they are not sun-bleached, as are the old sticks in the nest.

From seeing the size of the new nests that have been built this year and comparing them with the older nests, one would be very safe in saying that these large old nests are the pioneer homes of these birds and mark their first advent to Great Salt Lake, the date of which we shall omit.

The writer had some little experience with *Ardea herodias* in California. There are some two or three colonies between San Diego and Los Angeles, and in all cases, nests are built in tops of the highest trees. The Eucalyptus seems to be quite a favorite nesting site for this bird. It is not for lack of trees that the bird chooses low elevations for nesting here in Utah, for on Antelope Island, which is not five miles from either Egg Island or White Rock, may be found groves of cedars that are 30 to 50 feet high.

The following is only hearsay, that Utah Lake contains a small colony of these birds. One trip was made to that lake but no nests were found. However, many of the birds were seen feeding and in all probability there is a colony breeding on this lake.

Captain Davis, of Salt Lake, tells me that these birds nest very abundantly on Gunnison Island, more so than on any other island in Great Salt Lake. They are nesting in company with *Larus californicus* and *Pelecanus erythrorhynchos*. Captain Davis has been to this island many times, and it is undoubtedly safe to assume that he is correct in his statement, as he is a very close observer of nature generally.

It is also stated, but I could not vouch for the authority, that there is a colony of these birds nesting in the mouth of Bear River. While we have made two attempts to find the colony, we have as yet been unable to do so. If a colony of these birds does exist at the mouth of Bear River, they are of necessity compelled to nest in the broken down reeds and rushes, as does the Black-crowned Night Heron.

The following shows measurements of eggs:

A set of five rather long eggs:  $2.59 \times 1.79$ ,  $2.69 \times 1.58$ ,  $2.73 \times 1.79$ ,  $2.60 \times 1.80$ ,  $2.57 \times 1.79$ .

A set of five rather round eggs:— $2.56 \times 1.93$ ,  $2.58 \times 1.86$ ,  $2.51 \times 1.89$ ,  $2.48 \times 1.91$ ,  $2.50 \times 1.90$ .

A set of three extremely large eggs:  $2.76 \times 1.94$ ,  $2.75 \times 1.91$ ,  $2.74 \times 1.92$ .

A set of three extremely small eggs:  $2.45 \times 1.82$ ,  $2.51 \times 1.80$ ,  $2.52 \times 1.72$ .

A set of six typical eggs:  $2.57 \times 1.83$ ,  $2.61 \times 1.77$ ,  $2.55 \times 1.78$ ,  $2.56 \times 1.79$ ,  $2.57 \times 1.81$ ,  $2.58 \times 1.80$ ,  $2.574 \times 1.816$ .

The average size, taken from ten sets,—namely: three sets of three each; four sets of four each; two sets of five each; one set of six, is  $2.574 \times 1.816$  inches.

I endeavored this year to ascertain the exact length of time required for incubation; also from hatching to flight; but found it impossible, owing to the distance and time consumed in reaching their breeding ground.

These notes have been culled from data taken by my father and myself.

Trusting that this may be of some little benefit to you, I remain,

Your most sincere friend,

A. O. TREGANZA.

---

## LARUS KUMLIENI AND OTHER NORTHERN GULLS IN THE NEIGHBORHOOD OF BOSTON.

BY FRANCIS H. ALLEN.

In reporting in 'The Auk' for April, 1905 (Vol. XXII, p. 205) the taking of a Kumlien's Gull at Moon Island, Boston Harbor, on February 22, 1905, I ventured, though the bird had not previously been recorded from Massachusetts,<sup>1</sup> to say that its presence here was "probably in a sense normal rather than accidental, being simply a southward extension of its usual winter range in a season of unusual severity." The experience of the past winter (1907-08) seems to indicate that *Larus kumlieni* is indeed of normal occurrence on the Massachusetts Coast and not by any means

---

<sup>1</sup>Dr. Dwight has since recorded an earlier specimen, a young female taken at Plymouth, Mass., January 5, 1888, and now in the Rothschild Museum at Tring, England (Auk, Jan., 1906, XXIII, 41).

confined to the coldest seasons. This last winter was an exceptionally open one up to the latter part of January, and even after that was not unusually severe, but Kumlien's Gull was seen as early as December 29, some days before the last Geese went south, and as late as March 13, a day after the arrival of a great wave of Robins, Bluebirds, Song Sparrows, etc., from the south. The first of these birds was seen by me, December 29, 1907, at T Wharf, Boston Harbor, where the gulls congregate about the fishing schooners. It came within close range repeatedly and was identified beyond question. The dark markings at the ends of the primaries were perfectly distinct though of course much more restricted than those on the Herring Gull's wings. This bird (or one like it) was also observed at the same place by Rev. Horace W. Wright, January 18, 1908, and by Dr. Charles W. Townsend, February 7, both of whom identified it positively.

Mr. Wright also permits me to record two other birds of this species seen by him. One was on the Charles River Basin, Boston, February 10. "It came flying in and lit on the ice, and subsequently took successive flights back and forth before me. For some time I did not detect the gray spaces on the wings, but finally saw them to be unmistakable. The mantle and wings were like those of the Kumlien seen at T Wharf, but it would seem as if the gray wing-spots could not have been as prominent as in the case of that bird. But it may have been the identical bird. This Kumlien showed plainly the red spot at the angle of the bill. I did not perceive this mark on the T Wharf bird, but would not affirm that it was not there." I have quoted Mr. Wright's account in full in order to show the care with which the observation was made. The other bird was seen February 26 on Chestnut Hill Reservoir in the Brighton district of Boston. It rose among a flock of Herring and Great Black-backed Gulls and, "gradually ascending in the air, flew away eastward."

The next Kumlien's Gulls to be observed of which I have knowledge were two seen by myself in a flock of gulls off King's Beach, Swampscott, March 7. They were sitting in the water and, when viewed with a telescope, showed the wing-spots distinctly as they sat. These spots were darker on one than on the other. The bills of both were noticeably smaller than the bills of the Herring

Gulls with which they were associated, and the birds themselves were plainly smaller, though the difference in the bills was more considerable. One of them flew a short distance while I was watching him, and then the wings (at that distance and seen only for an instant) appeared immaculate. The black on the Herring Gull's primaries is very conspicuous in the closed wing, forming a large blotch, while the spots on the Kumlien's Gulls' wings showed only as marks on the separate feathers. Finally, a gull of this species, presumably one of the two observed by me March 7, was seen by Mr. Wright, March 13, at Fisherman's Beach, Swampscott, the next beach down the coast from King's beach. It identified itself by spreading its wings as it sat in the water off shore. All these birds — or both, if it be assumed that there were but two seen at different places — were in the adult plumage.

In connection with this report of Kumlien's Gull, it will be of interest, I think, to note the presence of other northern gulls in somewhat unusual numbers during the past winter. Indeed, the information which I have at hand suggests that neither *Larus glaucus* nor *L. leucopterus* is by any means as rare on the Massachusetts coast as the published records would indicate. The scarcity of such records is partly due to the very laudable hesitation on the part of observers to record birds which are only seen, not taken. It so happens, however, that most of these northern gulls which are seen here are found on protected shores or waters, where shooting is prohibited, so that some interesting occurrences must go entirely unrecorded unless the rule — in general very proper — which demands a specimen to back the record is waived in their favor. It is very probable, too, that the gulls in question are now of recent years more abundant here than formerly, for it is certain that the Herring and Great Black-backed Gulls which winter on our coast have increased under the protection afforded them. All the gulls, moreover, are much more approachable when found on protected ground than they were formerly, and flocks can be readily scanned in search of the rarer species. After conversation with several observers I have deemed it proper to make some statement concerning the recent occurrences of the Glaucous and Iceland Gulls in Massachusetts. The Rev. Horace W. Wright and Dr. Charles W. Townsend, both well known as experienced and careful

observers, have kindly furnished me with their notes on these species for publication in connection with my own.

The first of our records is of an immature Glaucous Gull at T Wharf, Boston Harbor, seen by me, February 16 and 23, and by Dr. Townsend, February 20, 1905. This may have been the same bird as that recorded by Mr. Brewster (*Birds of the Cambridge Region*, p. 92) as having been seen by Mr. Glover M. Allen off Harvard Bridge, January 20 of that year. Another immature bird of this species was seen by Dr. Townsend at Nahant Beach, January 7, 1906, and still another by the same observer at Ipswich, May 26, 1907. Of the Iceland Gulls (*Larus leucopterus*), Dr. Townsend observed one in the Charles River Basin, February 1, 1906, one in immature plumage in Boston Harbor, February 17, 1907, and another, or perhaps the same, young bird in the Basin, March 13. The Harbor bird was seen by me, February 16, at T Wharf. I heard its note once or twice,— practically identical, as it then seemed to me, with the familiar creak of the Herring Gull.

In January, February, and March of this year a company of white-winged gulls, varying in number and composition, was continually seen in a flock of Herring Gulls which frequented King's and Fisherman's Beaches at Swampscott, Mass. These birds were first found January 7 by Mr. Wright, who visited them also on January 13 and 21, February 11, and March 13. On February 22, Dr. Townsend and I saw them, and I observed them also February 29 and March 7. Unfortunately, it was never possible to identify positively every bird in this company, which varied in number from four to seven. Certain individuals, however, were determined beyond the possibility of error. At least two immature Glaucous Gulls were identified, and at least three immature Iceland Gulls. On January 13 Mr. Wright saw two Glaucous Gulls in the pure white plumage there. On the occasion of the visit of Dr. Townsend and myself, February 22, a single adult Glaucous Gull was included in the flock. This was the only adult bird belonging to either species which was noted in this flock, and it was seen but this once. The presence of this bird on this single occasion and that of the two Kumlien's Gulls in the same flock on March 7, and one of that species on March 13, indicate that the make-up of the flock was constantly changing, though doubtless certain individuals remained in the locality most of the time.

At other places on the coast the records for the winter are as follows:—

- 1 adult Glaucous Gull in Boston Harbor, February 7 (Dr. Townsend).
- 1 young Glaucous Gull at Ipswich, March 1 (Dr. Townsend).
- 1 Glaucous Gull in pure white plumage at Marblehead Neck, February 27 (Mr. Wright).
- 1 young Iceland Gull (?) at Devereux, January 16 (Mr. Wright).
- 1 young Iceland Gull (?) at Lynn Beach, February 22 (Mr. Wright.)
- 1 young Iceland Gull (?) at Marblehead Neck, February 27 (Mr. Wright).

The last three birds were not identified positively as to size, and one or more of them may possibly have been *L. glaucus*.

It is not particularly difficult for the trained observer to distinguish the white-winged gulls in the field from the Herring Gull; but as between *L. glaucus* and *L. leucopterus* a positive identification is not so easy, and probably cannot be determined with certainty unless the bird is seen under very favorable conditions and with other gulls close by with which to compare it as to size. One soon gets to recognize the white-winged species flying, even at a considerable distance, and the smaller size of the Iceland Gull is seen perhaps more distinctly on the wing than when the bird is sitting. The bill, when it can be distinctly seen, is an excellent field-mark, the Iceland Gull's, like that of Kumlien's Gull, being much smaller in proportion than are the other dimensions, as is shown by the measurements given by Dr. Dwight in 'The Auk,' January, 1906 (Vol. XXIII, p. 28). The adult Kumlien's Gull, when seen under favorable conditions, is easily distinguished from *L. glaucus* and *L. leucopterus*, for the spots on the primaries cannot fail to be noticed whether the bird is sitting or flying.

Of course the foregoing records lack the definiteness that would have attached to them had it been possible to take specimens in each case, but I trust they will be accepted for what they are worth. At any rate, it has seemed to some of us that it would be worth while to publish them, in the interests of defining the status of these three species as winter visitants to the Massachusetts coast, and with the hope of inciting other observers to watch for them both there and elsewhere.

*COLUMBINA* VS. *CHAMEPELIA*.

BY J. A. ALLEN.

THE case of *Columbina* versus *Chamepelia* presents unusual conditions and is hence of interest beyond the determination of the types and proper status of these two genera.

The genus *Columbina* was founded by Spix in 1825 (Av. Bras., II, 57, 58, pll. lxxv, lxxv a). There was no diagnosis, and no type was indicated, but four species were referred to it, as follows:

*Columbina strepitans*, p. 57, pl. lxxv, fig. 1 (= *Columba picui* Temm. 1813); type of *Columbula* Bonap., Consp., II, 1854, 80, by subsequent designation (Gray, 1855).

*Columbina campestris*, p. 57, pl. lxxv, fig. 2; monotypic type of *Uropelia* Bonap., Consp., II, 1854, 85.

*Columbina cabocolo*, p. 58, pl. lxxv a, fig. 1 (= *talpacoti* Temm., 1813); type of *Talpacotia* Bonap., Consp., II, 1854, 79, by tautonymy and by subsequent designation (Gray, 1855).

*Columbina griseola*, p. 58, pl. lxxv a, fig. 2 (< *passerina* Linn., 1766); virtually type of *Chamepelia* (Swains. 1827) by subsequent designation (Gray, 1840).

Thus in 1854 and 1855 the first three of these four species became types of other genera, leaving only *Columbina griseola*, equal to (or part of) *Columba passerina* Linn., as this species was at that time recognized, the habitat as originally assigned to *passerina* being "America inter tropicos." But before *Columbina* was dismembered by Bonaparte in 1854, *Columba passerina* had already been designated as the type of *Columbina* by Gray (List Gen. Bds., 1840, p. 58).

As *Columbina* meets all the requirements of a properly founded genus, having been duly published, with several species definitely referred to it, and the name being not preoccupied, it must be recognized in nomenclature. All that was lacking from the first to make it a full-fledged and properly defined genus was the designation of a type, which was supplied by Gray, as already stated, in 1840. Whether his designation was a proper one or not will be considered later in the present paper.

The genus *Chamepelia* was founded by Swainson in 1827 (Zool. Journ., III, Aug.-Nov., 1827. 361), but without designation of a

type, and with only two species referred to it, namely, *Columba passerina* Linn. and *Columba squamosa* Temm. In 1841 Gray (List Gen. Bds., 2d ed., 75) designated *Columba passerina* as its type, a species he had in the preceding year made the type of *Columbina*! The other species was referred by Bonaparte in 1854 (Consp., II, p. 85) to his new genus *Scardafella*, and later it became its type by subsequent designation (Gray, 1855, Cat. Gen. and Subgen. Bds., 100). Selby, in 1835 (Nat. Libr., Pigeons, 198), designated "*Columba Talpicoti* Temm." as the type of *Chæmepelia*, and Swainson, in 1837 (Class. Bds., 349), cited the same species, under a different name ("*Columba cinnamomina*. Spix, II, [pl.] 75a, f. 1" = *talpacoti* Temm.) as its 'example'; but both of these designations were invalid, as the species selected was not originally included in the genus. Hence after *squamosa* was removed in 1854, *passerina* was the only species left in the genus and it thus necessarily became the type of *Chæmepelia* by restriction. But if Gray's act making *passerina* the type of *Columbina*, in 1840, was valid, this would render *Chæmepelia* a synonym of *Columbina*.

The first step in the consideration of this question is to note the fact that *passerina* was not nominally one of the four species originally referred to the genus *Columbina*, but Spix did include in it a species — *griseola* — which is in reality only a slightly differentiated subspecies of *passerina*. Of this, as will be shown later, there can be no question. But the *griseola* of Bonaparte and of nearly all subsequent authors was not the *griseola* of Spix. This explains why "*griseola*" has been usually recognized as either a distinct species or as a synonym of *Columba minuta* Linn., and renders it necessary to consider the taxonomic history of not only *Columbina griseola* Spix but also of *Chæmepelia griseola* Bonap. and of *Columba minuta* Linn.

*Columba minuta* Linn. (Syst. Nat., ed. 12, 1776, 285) was based exclusively on the *Turtur parvus fuscus americanus* Brisson (Orn., I, 1760, 116, pl. viii, fig. 2), which was poorly figured but exceedingly well described, as is attested by the rulings of modern authorities (see especially Salvadori, Brit. Mus. Cat. Bds., XXI, 1893, 481). Bonaparte, who is responsible for much that is unfortunate in ornithological nomenclature, was the first author to refer (Consp., II, 1854, 77, 78) *C. minuta* Linn. to *C. passerina* Linn., as the young of the

latter, and to refer "*C. minuta* Temm. nec Linn" to *Columbina griseola* Spix,—a wholly erroneous proceeding, by which he supplanted the well-founded *minuta* Linn. by a wholly new *griseola* Bonap. (nec Spix); for *griseola* Spix = *passerina* Linn., and *griseola* Bonap. = *minuta* Linn. Yet Bonaparte was followed in this false step by most later ornithologists, down to and including both Salvadori (1893) and Sharpe (1899). Berlepsch, however, in 1887 (*Journ. f. Orn.*, 1887, 34), correctly identified *Columbina griseola* Spix with *Columba passerina* Linn., and this identification was emphatically confirmed by Hellmayr (*Revision der Spix'schen Typen brasilianischer Vögel*<sup>1</sup>) in 1906, on the basis of an examination of Spix's original type of *griseola*, which proves to have been a young female of *passerina*, as can be readily seen by comparing such a specimen with Spix's diagnosis and plate; *passerina* being here taken in the broad sense in which it was recognized by all authors before the modern practice of recognizing slight geographic forms came into vogue. Indeed, it is only necessary to compare young or female examples of both *passerina* and *minuta* with Spix's figure and description to become convinced that Spix's *griseola* cannot be *minuta*. The wonder is, first, how Bonaparte could have made such a palpable error, and, secondly, that it could have been so long and so generally perpetuated. Linnæus, as already said, based his *Columba minuta*, fortunately, exclusively on Brisson (*l. c.*), and Brisson so well described the bird that its identity is beyond question; for the two species, *minuta* and *passerina*, are widely different at all ages. Bonaparte's *griseola* is also fully described, and is obviously the *minuta* of Linnæus, and not, as he mistakenly assumed it to be, the *griseola* of Spix. The only authors who have apparently looked up the matter for themselves, and have thus discovered the error, are Berlepsch and Hellmayr, as already stated. The case is simply one of the many instances where one author has blindly followed another, like a flock of sheep following their leader, and not a case "where doctors disagree," since *griseola* of Spix is perfectly determinable.

It is further worthy of note that Bonaparte placed *minuta* Linn. in his section "*pectore nigro undulato*" of his genus *Chamæpelia*, and *minuta* Temm. & Knip in his section "*pectore immaculato*" of the same genus, notwithstanding that Brisson's description (the sole

<sup>1</sup> Abhandl. d. II Kl. d. K. Akad. d. Wiss., XXII, Abt. III, 697.

basis of *minuta* Linn.) indicates a bird with an unspotted breast, and gives other characters that absolutely exclude its reference to *passerina*. At the same time he placed *griseola* of Spix, a bird with a spotted breast, as shown by both Spix's figure and his diagnosis ("plumis capitis pectorisque squamosis"), with his own *griseola*, (described as "subtus roseo-vinacea, pectore puro") in the section "pectore immaculato"!

Now as to the summing up of the matter. The range of *Columba passerina* Linn., 1758, as originally given, included all of the warmer parts of America, and "Picuipinima, Marcgr. bras. 204," was one of the original references. Salvadori, in 1893 (*l. c.*, 477), gave the range as "South Atlantic and Gulf States, Texas, New Mexico, Arizona, and California, south to the West Indies, and through Central America to South America, as far as Peru and Paraguay." He recognized no subspecies of it, nor any closely allied forms, and after stating that he had examined a large amount of material from a great number of localities (he lists nearly 200 specimens as being contained in the British Museum, and refers to types of alleged species and other material examined elsewhere), he says: "...I have arrived at the conclusion that there is only one species," which, he goes on to say, varies more or less according to different conditions of environment. Without having seen the type of *griseola* Spix, he placed this name under *minuta*, evidently following previous authors without careful verification of the case.

This digression is to show that the status of *griseola* was that of a synonym of *passerina* till the *passerina* group began to be recognized as an aggregation of subspecies, of which *griseola* is one. It was not till Bonaparte redescribed *griseola* in 1854 that the name figured to any extent in ornithological literature. Subsequently it was used as a substitute name for *minuta* Linn., and was generally incorrectly ascribed to Spix, as was done by Gray in 1856, in his Catalogue of Pigeons (Cat. Bds. Brit. Mus., pt. IV, 1856, 50), where he adopted Bonaparte's genera of 1854 and his wrong determination of *Columbina griseola* Spix.

We return now to the question, What shall we do with *Columbina*? To recapitulate: Gray in 1840 recognized it as a genus, with *Columba passerina* Linn. as the type, and *Chamepelia* Swains. as a synonym of it. While *C. passerina* was not one of the originally included

species, so far as the name itself is concerned, his *Columbina griseola* was really only a new name for *passerina*, as *passerina* was understood down to 1854, or for 29 years later, and at best represents only a slight geographic form of true *passerina* as at present restricted. A year later Gray recognized both *Columbina* and *Chæmepelia* as distinct genera, with *Columbina streptans* Spix as the type of *Columbina* and *Columba passerina* as the type of *Chæmepelia*, *streptans* being only *Columba picui* of Temminck renamed.

In 1854 Bonaparte retained *Chæmepelia* (emending the name to *Chamæpelia*) and proposed three other genera based wholly or in part on species originally included in *Columbina*, namely: *Talpacotia*, to include *C. cabocolo* Spix (which is *talpacoti* Temm. renamed); *Columbula*, based solely on *C. streptans* Spix, to which he referred *Columbina* Spix as a synonym; and *Uropelia*, with *C. campestris* Spix as its sole species. *Talpacotia* is now currently treated as a synonym of *Chæmepelia*; *Columbula* is at present currently recognized as a monotypic genus, to which *Columbina* is still referred as a synonym; *Uropelia* is also still monotypic, and universally recognized. It thus happens that the four original species of *Columbina* are now dispersed among three universally recognized genera, all founded later than *Columbina* (*Chæmepelia*, 1827; *Columbula*, 1854; *Uropelia*, 1854), while *Columbina*, without adequate reason, has been retired from modern nomenclature.

The International Code of Zoölogical Nomenclature (Article 30, rule *d*) provides that "If a genus, without originally designated or indicated type, contains among the original species one possessing the generic name as its *specific or subspecific name, either as valid name or synonym*, that *species or subspecies* becomes *ipso facto* type of the genus." By a parallel ruling on the equal availability of species and subspecies as types of genera, the proper type of *Columbina* would be *Columba passerina* Linn. subsp. *griseola* Spix, under the trinomial refinement of modern nomenclature. *Columbina* would replace *Chæmepelia*, and *Columbula* would be left undisturbed. If *Columbina griseola* be thrown out as not available as type of *Columbina*, and Gray's second type designations for *Chæmepelia* and *Columbina* be recognized as valid, then *streptans* would be type of *Columbina*, *Columbina* would replace *Columbula*, and *passerina* would be the type of *Chæmepelia*. But does the law of priority permit us to ignore Gray's first type designations for these two genera?

I see no reason why *Columbina griseola* Spix = *Columbina passerina griseola* (Spix), may not be properly taken as the type of *Columbina*, in accordance with rule *d* of Art. 30 of the International Code respecting the equal availability of species and subspecies as types. In the latter case the basis is type by tautonymy, in the former type by subsequent designation, where a subspecies of the species that became type by subsequent designation was the originally included form. The A. O. U. Committee on Nomenclature, however, in considering the case of *Columbina*, thought that a principle was here involved which might affect other cases, and deemed it best to refer the matter to the International Zoölogical Commission for decision — a step I heartily approve, and therefore respectfully offer the foregoing exposition as a brief on the chief points at issue.

---

#### THE DESTRUCTION OF WHISTLING SWANS (*OLOR COLUMBIANUS*) AT NIAGARA FALLS.

BY JAMES H. FLEMING.

DISASTERS that so often overtake migrating birds are seldom matters of newspaper interest, but in the present case the birds were so conspicuous and the circumstances so unusual that public interest was aroused by the account in the Buffalo papers of March 17, 1908, of a slaughter of wild swans that took place at Niagara Falls on the 15th. It was stated that 128 birds were taken out of a flock that had been swept over the Falls, and the names of several men who had made the largest bags were given. I was able to get confirmation of the story from Mr. J. S. Wallace who was in touch with friends at Niagara, and on receiving two swans and more details on the 19th, Mr. Wallace and I decided to go to Niagara Falls and get the story at first hand, and the following is as nearly a correct account as it was possible to get.

On the morning of March 14, 1908, a flock of three or four hundred swans lit in the Upper Niagara River below Grand Island

and not far from the village of Chippawa, Ont. All day detached parties of swans were seen floating down the river with the current till danger of being swept into the Canadian rapids caused the birds to rise and fly back to their starting point. They were unable to obtain food, and the constant battling with the swift current no doubt weakened them. They were still in the upper river Sunday morning the 15th. It was a day of drizzling rain. About 11.30 A. M. William Leblond, who lives at the 'Maid of the Mist' landing below the Horseshoe Falls, was on the ice bridge that then barred the river at that point. His attention being called by its cries to a swan struggling at the edge of the ice, he looked up the river towards the Falls. The water seemed covered with a struggling mass of swans that were rapidly being swept towards him. Some were caught in the Bass Rock eddy and detained near the Ontario Power Company's building, but the great majority were carried by the current directly to the ice bridge and either cast up, or ground against it, by the masses of floating ice that were continually coming over the Falls. Some of the birds were already dead, many were injured, and the rest stunned and unable to help themselves; though how any could have remained alive after coming over the falls is difficult to understand; yet many of the birds were able to call loudly in their distress. News of the disaster quickly spread and men went out on the ice bridge clubbing all the swans that could be reached, while others fished the dead and dying birds out of the water with poles, and the Italian laborers at the power works attended to all that came ashore at their point. On Monday any birds that could not be reached with clubs and poles were shot. Just how many of the flock came over the falls will never be known but after the disaster it was estimated that something under 200 birds remained on the upper river; at least 100 birds were either slaughtered or picked up between the falls and the ice bridge; some were certainly sucked under the ice and caught in the fissures of the ice bridge, and only two were taken below that point. There seems little doubt that 100 is a safe estimate of the birds taken, and all are agreed that none escaped alive, though it afterwards became apparent that many of the birds would have recovered from the shock had they been left alone, though the town of Niagara Falls would thereby have missed a gastronomic experience much to its liking, for contrary to the usual belief these swans were good eating.

We found on arriving at the Falls that Mr. Harry Schumacker had arranged interviews with some of the principal witnesses of the tragedy, and we were able to get a great deal of information from Mr. Harry Williams and Mr. Leblonde. At the latter's place we saw 30 swans hanging *en masse*. The sight was not one easily forgotten. We were within a few yards of the scene of the killing, it was late when we reached the place, and at first the swans stood out as an indistinct patch of white in the surrounding darkness, but when we were able to examine the mass with the aid of lanterns we understood the extent of the tragedy that had taken place.

On the 18th three more swans were taken; one of these was alive and was taken to the Buffalo Zoo by Mr. James Savage, where it fully recovered. Another, Mr. Leblonde told us, had taken refuge in some inaccessible place near the 'Cave of the Winds' and was still alive on the 20th.

On the 22d (Sunday) 12 more swans came over the Falls; six of these were taken at the Bass Rock eddy, and five at the ice bridge, while three were seen to rise from the water between the Falls and ice bridge and *fly back* over the Falls and on up the river.

Mr. Wallace made several subsequent visits to the Falls and cleared up some doubtful points; we were also able to compare our notes with those secured by Mr. James Savage<sup>1</sup> of Buffalo. Swans come over the Falls occasionally, some were taken in 1906 and 1907, but nothing like the present case is remembered by any one.

In all I saw thirty-six birds; of these I was able to secure thirty-three, resulting in a unique series of measurements, and adding to my collection all the sterna, and the skins of twenty-eight birds, while five were handed over to friends for mounting. A careful examination of the swans showed that several had broken wings, others had the clavicles dislocated, and in one or two the sternum was crushed, others had the lungs congested, but it was not possible to examine the birds as thoroughly as I would have wished. A good many of the birds showed no signs of injury except where they had been hit with clubs, or shot, and I am certain that had they been allowed time to recover from the shock they would have

---

<sup>1</sup> See Bulletin of the Buffalo Society of Natural Sciences, IX, 1908, pp. 23-28, for a full account by Mr. Savage of this same disaster.

escaped. I found the birds with one exception fat and in excellent condition, but was disappointed to find the stomachs empty; in only three cases I found slight traces of vegetable matter. The birds had not fed since they strayed into the Niagara River. The weights varied from 11 lb. 15 oz. to 18 lb. 10 oz.; a fourth were birds of less than a year old, the remainder were fully white, and some must be very old birds. Mr. P. A. Taverner secured drawings of all the variations in the beaks. The tedious work of making up so many skins was safely accomplished by Mr. H. H. Mitchell and assistants.

## THE MACAW OF DOMINICA.

BY AUSTIN HOBART CLARK,

*United States Bureau of Fisheries.*

SOME time ago I published <sup>1</sup> an account of the Macaws which at one time inhabited the Lesser Antillean Islands of Guadeloupe and Martinique, and possibly Dominica, though I was unable to find a definite record of their occurrence in the last named. Mr. Walter Rothschild, who has recently published a magnificent work on the extinct birds of the world, was also unable to state definitely that a macaw had at any time been a resident of that island.

Through the kindness of Mr. J. H. Riley of the U. S. National Museum, who gave me the reference to the work, I am now enabled to remove the query from my previous record of a macaw from Dominica. In a book by Thomas Atwood, dated 1791<sup>2</sup>, I find the

<sup>1</sup> The Lesser Antillean Macaws; Auk, Vol. XXII, No. 3, pp. 266-273, July, 1905.

<sup>2</sup> The History of the Island of Dominica, Containing a description of its situation, extent, climate, mountains, rivers, natural productions &c. &c. together with an account of the civil government, trade, laws, customs, and manners of the different inhabitants of that Island, its conquest by the French, and restoration to the British dominions. by Thomas Atwood. London: printed for J. Johnson, No. 72, St. Paul's Church-yard. MDCCXCI.

Col. H. W. Fielden and Mr. C. B. Cory both mention this work, but it was not accessible to me when I was working on West Indian birds.

following; speaking of the birds of Dominica he says (p. 29): "The mackaw is of the parrot kind, but larger than the common parrot, and makes a more disagreeable, harsh noise. They are in great plenty, as are also parrots in this island; have both of them a delightful green and yellow plumage, with a scarlet coloured fleshy substance from the ears to the root of the bill, of which colour is likewise the chief feathers of their wings and tail. They breed on the tops of the highest trees, where they feed on the berries in great numbers together; and are easily discovered by their loud chattering noise, which at a distance resembles human voices. The mackaws cannot be taught to articulate words; but the parrots of this country may, by taking pains with them when caught young. The flesh of both is eat, but being very fat, it wastes in roasting, and eats dry and insipid; for which reason, they are chiefly used to make soup of, which is accounted very nutritive."

Of course the possibility at once suggests itself that the "mackaw" is only the larger parrot of the island, *Amazona imperialis* Richmond, the "common parrot" being *Amazona bouqueti* (Bechstein); but in the former there is no red on the face, nor is it green and yellow, nor are the chief feathers of the wings and tail red; moreover, it is quite unlikely that anyone should confuse a macaw and a parrot, while it is quite probable that the two parrots were considered the same species, a misunderstanding of the specific limits of parrots being very prevalent at the present time in the tropics of the New World. There is such a great difference in life between a macaw and a parrot, while the parrots of the genus *Amazona* with which I am acquainted in the field are in general habit so similar, that I am forced to the conclusion that Atwood has considered the two parrots as one, and taken his description from the more brilliantly colored, and that his macaw is a *bona fide* member of the genus *Ara*; but it appears to be different from all the known members of the genus, and may to advantage be known by the provisional name of *Ara atwoodi*.

I take this opportunity of correcting an error which appears to have been the cause of considerable confusion; in an article on West Indian parrots,<sup>1</sup> I gave a list (p. 344) of all the species known to inhabit or to have inhabited those islands; those now extinct

<sup>1</sup> The West Indian Parrots: Auk, Vol. XXII, No. 4, pp. 337-344, October, 1905.

were referred to in a footnote announcing the fact. By a typographical error, the reference number which should have followed *Amazona martinicana* was placed after *Amazona bouqueti*. I did not consider it necessary to call attention to this obvious slip in a special note, more particularly as nothing was said of the species being extinct in the main body of the paper (p. 343) where it is mentioned, while the name *martinicana* is here used for the first time, provisionally conferred upon a long extinct form. Count Salvadori, however,<sup>1</sup> in the following year, notes that "Mr. Clark mentions this species [*bouqueti*] as already extinct," and later<sup>2</sup> publishes a letter from Mr. A. H. Verrill apparently showing that the bird is rather abundant at the present time. While it is unfortunate that the mistake occurred, I cannot quite see how such a palpable typographical error could have passed unnoticed. As a matter of fact I am happy to be able to state that the bird still exists in certain parts of Dominica.

Count Salvadori is not convinced by the arguments with which I tried to show that *Amazona violaceus* (Gmelin) was near *A. imperialis* Richmond, but thrusts it back again into the synonymy of *Deroptylus accipitrinus*; Mr. Rothschild has since resurrected it again, however, and I am still firmly of the opinion that it has nothing whatever to do with *Deroptylus*, for the reasons I have already given. While Mr. Rothschild agrees with me on this point, I must take strong exception to several of the species of Psittacidae he admits to the West Indian avifauna, and in this I am glad to find myself in agreement with such an eminent authority as Count Salvadori. My views on West Indian Psittacidae remain the same as stated in my previous papers.

Mr. Rothschild appears to have overlooked my article on the West Indian Parrakeets, for he makes no reference to it in his bibliography nor in the main body of his work, nor does he mention the numerous species which have become extinct on Barbados, and several of the other islands, to which I called attention in my 'Birds of the Southern Lesser Antilles' (not mentioned by him) and in my 'Extirpated West Indian Birds.'

---

<sup>1</sup> Ibis, [8] VI, October, 1906, p. 643.

<sup>2</sup> Ibis, [9] I, April, 1907, p. 365.

## GENERAL NOTES.

**Cabot's Tern** (*Sterna sandvicensis acuflavida*) **Breeding in North Carolina.**— In Pamlico Sound, North Carolina, about ten miles westward from the village of Ocracoke lies Royal Shoal Island. It is little more than a lump of sand and shells rearing its back scarcely three feet above high water. In area it is rather less than four acres. This island has for many years been a popular resort for breeding sea-birds. For five years the Audubon Society has protected them from the ravages of the feather hunter and egg-eating fisherman, and as a result the colony has largely increased. Laughing Gulls, Black Skimmers and Wilson's Terns breed here in numbers, and the Least Terns are perhaps more numerous about the island in summer than at any other breeding place on the Atlantic coast. The most numerous species, however, is the Royal Tern, and about 3500 young are believed to have been raised here the past season. On my last annual trip of inspection I reached Royal Shoal on June 25, 1907, and soon discovered a new bird breeding here. Closer inspection revealed the new-comer to be *Sterna sandvicensis acuflavida*. The nests of this bird, over twenty of which I counted, were merely slight excavations in the sand. These were all located among the closely clustered nests of the Royal Tern with which bird the Cabot's Tern seemed to associate constantly. Like their large neighbors, they were very tame and I easily photographed individuals at a distance of not over fifteen feet. Later in the day, by exercising patience, I crawled over the bare beach to within seven feet of one as it sat on its eggs, and for several minutes we observed each other at leisure. During the course of my approach the bird frequently left the nest and hovered above it but quickly settled again when my movements ceased. Warden Jannett, who guards the island, reported that sixty-four Cabot's Tern's eggs were laid during the season. This bird has not previously been noticed breeding among the protected colonies in the State, and in fact, so far as I am aware, there have been no records of its occurrence in North Carolina, except one reported by Dr. Louis B. Bishop (MS.) from Pea Island, August 22, 1904.— T. GILBERT PEARSON, Greensboro, N. C.

**Lead Poisoning in Ducks.**— An interesting condition of affairs, which nevertheless promises to have serious results in the future, came to my notice during the past hunting season. The Misqually Flats, one of the numerous large marshes of Puget Sound, has been famous for its duck shooting almost ever since the first settlement of the State. Many tons of shot must have been showered over its broad expanse, but until this year no harm from this source has come to any ducks that did not get it direct from a shot gun. Consequently I was surprised to discover the following conditions:— My attention was directed by a game-keeper to

the fact that he had noticed a number of Mallards (*Anas boschas*), some dead and others that appeared to be sick one day and a day or two later were found dead near the same place. Curiosity had led him to examine several, but he reported no signs of their ever having been wounded. I devoted half a day to a careful study of these singular conditions, with the result that my dog found two dead ducks and caught one that was too sick to fly away. Post-mortem examinations showed no wounds of any kind, but the three stomachs were well filled with duck shot, all evidently eaten by the birds by mistake for gravel. One stomach contained nineteen shot, one twenty-two, and the other twenty-seven. The large intestine was heavily leaded and seemed contracted, while the lining of the stomach could be easily scaled off in quite large crisp pieces. The gastric juices had evidently worked on the shot to some extent, as most of them were considerably worn and had taken various shapes. I found a number of remains of ducks that had recently been eaten by hawks or owls, but could not determine positively the cause of their death. A curious feature of the case is that all of the sick ducks found or reported were Mallards.

Has such a condition of affairs ever before been reported? If so, I should greatly like to know what the future results are apt to be.—J. H. BOWLES, Tacoma, Wash.

**Capture of the Flamingo at Lake Worth, Fla.**—A full grown American Flamingo (*Phaenicopterus ruber*) with very handsome plumage was killed on Lake Worth, Dade County, Fla., in May, 1905. The bird was alone, standing in shallow water, off Shermans Point, and was shot with number four shot, at about thirty yards. It was early in the day, just after a severe storm, and the bird seemed to be dazed, for while I was wading to it, it did nothing but look about, as if about to fly. The specimen is mounted and in the collection of J. J. Ryman and Son, Palm Beach, Fla.—C. P. Ryman, New York City.

**The Snowy Heron in South Carolina.**—On May 15, 1908, while exploring certain marshes and sea-beaches in the interest of the Charleston Museum and of the State Audubon Society, I discovered two strong breeding colonies of the Snowy Heron (*Egretta candidissima*), a species which was believed to be almost if not absolutely extinct on the South Carolina coast. The birds are established on two small islands or 'hammocks' in the salt marshes which are probably at least ten miles distant from each other 'as the crow flies,' and which are being used as breeding places by hundreds of Louisiana, Little Blue, Green, and Black-crowned Night Herons. The total heron population of the smaller hammock, which has an area of about three acres, is estimated at about six hundred, of which probably between one hundred and one hundred and fifty are Snowy Herons; while the number of herons established on the larger island,

which has an area of about four acres, is probably not less than one thousand, the number of Snowy Herons here being estimated at about two hundred.

Hundreds of nests were found in the low 'sparkleberry' bushes, yuccas and palmettoes, but owing to the close similarity of the nests, eggs and downy young of the Snowy, Louisiana, and Little Blue Herons, I was unable to determine the number of Snowy Heron nests. Many of the nests which contained eggs or downy, yellowish white young probably belonged to the Snowy, though in only one instance — when I found a Snowy dead upon a nest with one unbroken egg beneath the lifeless body — could I be sure that any particular nest was not the property of a pair of Louisianas or Little Blues. It is surprising, moreover, that we found no Snowy Herons among the nestlings which had passed beyond the downy stage. The only possible explanation seems to be that the young Louisianas and Little Blues were further advanced than the young Snowies and that the latter had not yet begun to acquire feathers at the time of my last visit on May 29. This view is supported by the fact that the testes of three adult males collected on that date for the Charleston Museum and for Mr. A. T. Wayne were very large — as I am informed by Mr. Wayne who prepared the specimens.

The Museum is taking definite measures in coöperation with the South Carolina Audubon Society to ensure the protection of these colonies. The problem of safeguarding these two little islands should not be a difficult one; and there seems to be good reason to hope that the Snowy Heron will succeed in reëstablishing itself along this coast.— HERBERT R. SASS, *The Charleston Museum, Charleston, S. C.*

**The Black-crowned Night Heron in Washtenaw County, Mich.**—The Black-crowned Night Heron (*Nycticorax nycticorax naevius*), although locally common south of the 42d parallel, is of rare occurrence, if one is to judge from the data at hand, in this county (Washtenaw). For that reason a statement regarding recent observations on and the capture of a specimen at Ann Arbor, Mich., will, it is believed, prove at least of interest to students of Michigan ornithology.

Previous to the appearance of the species here this spring but three authentic records were known for the county, although other specimens may have been taken by hunters and parties not in touch with students of bird-life. A brief summary of these records is as follows:—On April 30, 1882, Prof. E. D. Campbell of the University of Michigan found the species in a bit of swampy ground known locally as 'The Overflow Region,' about two and one half miles east of Ann Arbor. On June 27, 1893, Mr. P. A. Taverner noted one, apparently an immature bird, at Four Mile Lake, some four or five miles west of this city; and on April 30, 1894, observed it again in the same locality as that in which Prof. Campbell found it. Up to 1908 the above records were the only ones known to the University Museum Staff, for this County.

On May 3, 1908, it was my good fortune to observe one of these handsome birds in Forest Hill Cemetery of this city, and after watching it closely for perhaps half an hour Mr. Norman Wood of the Museum was called to the scene and verified the identification, also suggesting the possibility of a nest. Although diligent search was made for the latter, several nests apparently of the proper construction being examined, nothing was found which could positively be connected with the heron. Later in the day the bird was shot by a student, Mr. Max Peet of the University, thus preventing any further study of the bird in the field.

Laboratory examination showed the specimen to be a male, and even in the field it was readily observed that the plumage was that of an immature bird, as there was no decided black or gray about it.

Detailed examination of the skin and comparison with Audubon's excellent description at once showed the specimen to be a bird of the second year. Audubon is here quoted for the purpose of conveying a better idea of this plumage:—"Young of second year, similar to adults but scapulars and interscapulars cinereous, like the wings and the white of the forehead obscured by the blackish of the crown; the colors generally more sombre with neck and lower parts more decidedly ashy." In this specimen, besides tallying with the above, a few black feathers were found in the scapulars, showing that the bird was apparently just gaining its mature plumage. The crown plumes were three in number, pure white and of variable length, the longest being about six inches.—A. D. TINKER, *Ann Arbor, Mich.*

**The Turkey Buzzard near Schenectady, N. Y.**—I have been an interested reader of 'The Auk' for many years, during which time I have by degrees become educated to the fact that the Turkey Buzzard (*Cathartes aura*) has a penchant for roaming far afield. A few weeks ago I examined a stuffed specimen at the home of the owner, Mr. W. Mephan, who killed it on a Saturday afternoon in June, 1899. The bird was first observed roosting high on the dead branches of the tree from which he was shot. The bird was killed on the Toll farm situated in the town of Glenville, about three miles northwest of Schenectady. There is no question as to the authenticity of this record for the reason that I am personally acquainted with the brother of the man who killed the bird, and who was present at the time it was killed. I believe this is the most northerly record for the State.—LANGDON GIBSON, *Schenectady, N. Y.*

**Migration of Hawks.**—Mr. Robt. Barbour's letter in the January number of 'The Auk' (XXV, pp. 82-84) describing the migration of a large number of hawks has interested me very much. For a number of years past I have observed the migration of hawks, and have repeatedly seen, I should say, thousands of hawks. On September 22, 1907, the number exceeded, I believe, any ever observed before. I was on the top of a mountain near Stag Lake, Sussex County, N. J., about 1200 feet above

sea level, from where I had an unobstructed view for miles of country all around me. My object was to observe the migration of hawks, and I was armed with a Hensoldt Binocular eight power glass. The day was clear, and at one time late in the forenoon, several thousand hawks, Broadwings mostly, were in view. They came from a northeasterly direction which would take them directly to the Shawangunk Mountain, Ellenville, and Lake Minnewaska, N. Y., sixty miles northeast from my place, where a similar flight was observed by Mr. Barbour and Mr. Kirk Monroe. A constant stream of birds, very high up, could be seen for a long while, and they were going in the direction of the Delaware Water Gap. Over the valley to the southwest of me, the birds seemed to collect into an immense flock, while hundreds, if not thousands of birds were gyrating around and around, describing smaller and larger circles in the air, in heights of from, I should judge, 600 to 2,000 feet above the earth. Most birds were Broadwings. There were, however, other hawks such as Red-tails and Red-shoulders among them, while the "Accipiter" genus was represented by some Cooper's Hawks and more Sharp-shinned, which, however, were mostly flying lower and took no part in the general evolution. Some days I have observed about every species of hawks that we find in this part of the country, from the same stand. By decoying them with either a live or mechanically moving stuffed Great Horned Owl, I have taken some very successful and interesting photographs, and have secured hundreds of specimens with the gun.

Where this annual migration of hawks begins and where it ends, I do not know. If notes could be collected further north and south than Ulster County, N. Y., and Sussex County, N. J., the lane of migration might be well defined. The most extensive migrations occur just before a storm.—JUSTUS VON Lengerke, *New York City*.

**A New Name for the Texan Barred Owl.**—By the changes in the names of the genera of owls lately made by the A. O. U. Committee, by which *Strix* takes the place of *Syrnium*, my name for the Texan Barred Owl becomes preoccupied, there already being a *Strix helvola* of Lichtenstein (Verz. Samml. Säugeth. und Vögel Kaffernlande, p. 11, 1842). I therefore propose for the Texan Barred Owl, *Strix varia albogilva* nom. nov. The subspecies was originally described as *Syrnium nebulosum helveolum* Bangs, Proc. New Eng. Zool. Club, Vol. I, p. 31, March 31, 1899. The type of course remains the same, — adult ♀, No. 4551, Coll. of E. A. and O. Bangs, Corpus Christi, Texas, Feb. 2, 1899.—OUTRAM BANGS, *Boston, Mass.*

**The Breeding Season of *Strix pratincola* in South Carolina.**—The contribution of Mr. Arthur T. Wayne in 'The Auk' for January, 1908, concerning the breeding of the Barn Owl in South Carolina during the autumn, suggests that the following notes regarding the nesting of the bird in that State in April might be of interest.

On April 1, 1907, while the guest of Mr. William Loundes at Cat Island, South Carolina, I learned that a pair of these birds had for years inhabited a disused rice mill on his plantation. Climbing to the second floor of the building we saw a pair of Barn Owls fly out of a window, the panes of which were broken. The nest was soon located in a covered portion of the machinery. It contained four eggs. On May 20, I again visited the mill, and both old birds flew out as before. In the nest was one young owl apparently about old enough to fly. There were no eggs in the nest and nothing was seen of any other young birds. On January 23, 1908, I examined the mill thoroughly but no nest could be found and only one Barn Owl was seen.  
— T. GILBERT PEARSON, *Greensboro, N. C.*

**Curious Fatality among Chimney Swifts.**— I am indebted to Dr. O. P. Maxson, Waukegan, Ill., for information regarding the destruction of a large number of Swifts, in one of the chimneys of his house during a cold rain storm. Dr. Maxson writes under date of May 16, 1908, as follows:—

"On the 13th May there was a large flight of Chimney Swifts during a steady rain storm. One of my daughters who was out in the yard noticed the Swifts flying down into the chimney with which the furnace flue is connected, and on going into the basement we found it full of coal gas. Supposing something was wrong with the draft we investigated and then heard the birds chirping and a fluttering of wings in the chimney. There is a door in the furnace flue, about 7 × 18 inches, used for opening when the furnace is shut off, and through this my son and a companion reached in and took the birds out from the chimney. Some were dead, others only stupefied from the effects of the heat and coal gas, while many were able to fly as soon as liberated. At first the chimney, which has a large tile-lined flue, was so obstructed by the birds as to choke the draft, and for more than an hour the boys were busy in taking out the swifts which had accumulated and were still flying in, while three of the ladies of my family were receiving them and carrying them to the open windows of the basement. There being so many at work and in such haste to get the birds into the fresh air that they might revive as many as possible, they gave up any attempt to keep count of their numbers. There were, however, one hundred and five dead and probably five times that number that revived sufficiently to enable them to fly off, when liberated. After the numbers had largely decreased in flying down the chimney and the boys had abandoned their work, I went to the flue and extricated sixty-six more, of which eight were so injured by the heat that I had to kill them. This chimney was heated by the furnace fire, but another chimney connected with the kitchen range had not been used by the birds and none were found in the ash pit at the base of it. The flight lasted from the middle of the afternoon until evening."

While it is well known that these Swifts congregate and roost in unused chimneys, particularly in the fall, prior to the migration, I think it is an

unusual occurrence for them to occupy a chimney still in use and in such numbers so early in the season. The fact that this particular chimney was one of modern construction and tile-lined, may account for the birds not being able readily to roost against the sides, and the cause of their having accumulated in a mass at its base.—RUTHVEN DEANE, *Chicago, Ill.*

**The Horned Lark in Georgia.**—A specimen taken from a flock of Horned Larks, January 20, 1893, at Kirkwood, Ga., by Mr. R. W. Smith has been identified at the Biological Survey as *Otocoris alpestris alpestris*, while a specimen taken in Clayton County, Ga., November 30, 1907, proves to be *Otocoris alpestris praticola*. Thus both these forms are for the first time included in the fauna of Georgia.—WELLS W. COOKE, *Biological Survey, Washington, D. C.*

**Clarke's Nutcracker from Wisconsin.**—On page 222 of the April issue of 'The Auk,' Mr. Widmann mentions an occurrence of *Nucifraga columbiana* in Crittenden Co., Ark., as being "the farthest eastern occurrence of the species."

In 'The Birds of Wisconsin' by L. Kumlien and N. Hollister (Bull. Wis. Nat. Hist. Soc., Vol. III, p. 86), is a notice of this species having been taken on the outskirts of the city of Milwaukee in the late fall of 1875. This carries the eastern record much beyond Arkansas.—HENRY L. WARD, *Milwaukee, Wis.*

**Red Crossbills, and Some Other Birds in Lower Delaware.**—On May 18, 1908, I shot an adult male, an adult female and a juv. of this species from a flock of 9 to 12 that were feeding in a pine grove close back of the village of Rehoboth, within one quarter mile of the ocean and about six miles south of Cape Henlopen. The only other record I have of this bird in Delaware is for a single bird, observed by Dr. Wm. E. Hughes, Philadelphia, Pa., near Lewes—six miles north of Rehoboth, and curiously enough that date was May 19, 1895. The dates and locality are certainly unusual for this species. Cardinals and Carolina Wrens were in full song in this same grove, an Acadian Flycatcher was noted close at hand, two Blue-gray Gnatcatchers were "bizzing" in the tree-tops, and on the 16th of May I shot a fine male Blue Grosbeak about two miles inland.—C. J. PENNOCK, *Kennett Square, Pa.*

**The Nelson Sparrow in Georgia and Florida.**—The Nelson Sparrow (*Ammodramus nelsoni*) was taken in 1902 by Mr. Arthur H. Helme on Cumberland Island, Ga.—the first record for the State. During the years 1905 and 1906, Mr. W. W. Worthington took the species at various places on the coast of northeastern Florida, as far south as Titusville, and the

specimens were identified by the Biological Survey—constituting the first record for Florida. During the winter of 1907-08, Mr Helme, found the bird on the Gulf coast of Florida, south to Cedar Keys.—WELLS W. COOKE, *Biological Survey, Washington, D. C.*

**The Acadian Sharp-tailed Sparrow in Georgia and Florida.**—This subspecies (*Ammodramus nelsoni subvirgatus*) was found by Mr. Helme as a common winter resident at Cumberland Island, Georgia, and by Mr. Worthington as equally common at Amelia Island, Florida. In each case this is the first record for the State.—WELLS W. COOKE, *Biological Survey, Washington, D. C.*

**White-crowned Sparrows Unusually Abundant in Eastern Pennsylvania.**  
—On May 10, 1908, I noted a single White-crowned Sparrow in a small patch of briars in a fence corner one half mile from my home, and out in the country. On May 11, at 5 A. M., there were two birds in the same place. Dr. Ehinger of the State Normal School, West Chester, Pa., reports seeing two of these birds in the country on May 11, and on the same day eight White-crowned Sparrows spent the day on the campus of the Normal School.—C. J. Pennock, *Kennett Square, Pa.*

**The Worm-eating Warbler in Ontario.**—On the morning of May 28, 1908, I took a male Worm-eating Warbler (*Helmitheros vermivorus*) in a maple woods with a chestnut ridge, about three miles west of London, Ont. My attention was attracted by what seemed to be the notes of a Chipping Sparrow, delivered very rapidly but with a tone a trifle more musical than is the case with the sparrow. After some search we found him sitting still about fifty feet up, and with a glass I could see a warbler's bill and could tell that it was flesh-colored, although the light was too poor to show anything more. A lucky shot brought him down and I had the pleasure of picking up the first Worm-eating Warbler recorded for Canada.

In thinking the matter over I remembered having heard a similar, but not identical, song about a week before, ten miles further west, but was unable even to see the author of the note, and since then I have been told that this warbler was accurately described by a boy living not far from where mine was taken, so that it is possible more than one have been about. Three or four years ago Prairie Warblers were reported and taken in several places throughout the Province where they had not been seen before, and it is possible that this year may see an occurrence of Worm-eating Warblers which will parallel that of the other species.—W. E. SAUNDERS, *London, Ont.*

**Protonotaria citrea at Concord, Mass.**—I observed a fine full plumaged male Prothonotary Warbler at very close range in a briery swampy thicket

in Concord, Massachusetts, on May 1, 1908. This bird was identical in plumage with the one shot by Mr. Kennard in Auburndale last May, which specimen is in the Collection of the Boston Society of Natural History. The bird I saw was associated with Yellow Redpoll and Yellow Warblers and was unmistakable. Two other experienced bird students were with me.—LIDIAN E. BRIDGE, *West Medford, Mass.*

**A Prothonotary Warbler in Central Park, New York City.**—On May 4 of the present year I saw and identified a Prothonotary Warbler (*Protonotaria citrea*) flying back and forth over one of the inlets of the lake in Central Park. I watched it nearly an hour, many times seeing it light in a bush not four feet from where I was sitting. I pronounced it a Prothonotary Warbler, then went to the Museum and examined a skin to make sure of it. I was attracted to the bird by its song which was new to me.

On May 5, Mr. Chubb, of the Museum of Natural History, and Dr. Wiegman saw and identified it also.<sup>1</sup>—ANNE A. CROLIUS, *New York City.*

**Brewster's Warbler.**—Thursday, May<sup>14</sup>, 1908, I saw a Brewster's Warbler, a male singing, in the Arnold Arboretum near Boston, Mass. At the time he was singing the regular three-syllabled song. He is in the same part of the arboretum as last year, and is, to all appearances, the same bird.

He was seen the following day by Mr. Charles F. Faxon.—JAMES L. PETERS, *Jamaica Plain, Mass.*

**The Kentucky Warbler in Vermont.**—A specimen of the Kentucky Warbler (*Oporornis formosa*), was taken May 30, 1905, at Lunenburg, Vt., by Mr. W. E. Balch and identified at the Biological Survey. The specimen is now in the Fairbanks Museum at St. Johnsbury.

This is probably the first authentic record for the State.—WELLS W. COOKE, *Biological Survey, Washington, D. C.*

**Mockingbird in West Medford, Mass.**—From November 17, 1907, until April 20, 1908, we had a Mockingbird — *Mimus polyglottos* — on our place the greater part of each day, with few exceptions, feeding on suet, barberries and cedar berries. The bird, presumably a female, as it did not sing, scolded and drove away the Shrike, Jays, Cedar Birds and Robins.—LIDIAN E. BRIDGE, *West Medford, Mass.*

**Nesting of the Short-billed Marsh Wren in Philadelphia, Pa.**—The Short-billed Marsh Wren (*Cistothorus stellaris*) is of exceedingly rare occurrence in the vicinity of Philadelphia, where it is rarely seen even as a migrant,

<sup>1</sup>[This is the bird recorded in 'Bird-Lore,' May-June, 1908, p. 128, where, however, the date of the observation is accidentally given as May 8 instead of May 4.—EDD.]

probably on account of its small size and general resemblance to its long-billed relative (*Telmatodytes palustris*), and also, quite likely, because very few of our ornithologists can distinguish it from the latter species. But it is not surprising that its identity is hard to determine, for it is more shy and retiring than the Long-billed Marsh Wren; consequently it is seldom seen and may occur and even breed in localities where its presence may be wholly unsuspected by the casual observer. Furthermore, very few ornithologists — especially the opera glass devotees — have the necessary ambition to intrude into its haunts, to wade into the swamps and marshes in quest of this and other marsh inhabiting species, and consequently there is nothing definitely known regarding its status as a resident in this vicinity.

There are no late records of its occurrence, and in the county of Philadelphia I have been unable to find a single authentic record of its capture or observation, except my own, and from this it will be seen that the Short-billed Marsh Wren can rightly be regarded as an extremely rare breeder, in North Philadelphia at least, as I have persistently and diligently searched the marshes in this part of the county annually for the past five years, but have found only one pair of birds and one nest.

This nest was found on June 8, 1904, at Richmond, Philadelphia, less than five miles from the City Hall, well within the city limits, in a large cat-tail marsh comprising over ten acres and almost surrounded by manufacturing establishments. It was well out in the marsh, amidst a dense patch of tall reeds, attached securely to the blades and stalks, 3½ feet above water 1½ feet deep. It contained four fresh eggs which were collected and three of them are now in the writer's collection; the fourth was accidentally broken.

The nest resembled a Long-billed Marsh Wren's in every respect. It was compactly made of dried heads of living cat-tails and marsh grass woven tightly together into an oval-shaped ball, and thickly lined with cat-tail down. It was covered with loose pieces of cat-tails, hanging from it and making it look much larger than it really was; and these pieces of rushes almost concealed the round entrance, a hole in the side, just above the middle about the size of a nickel five-cent piece. It was 7 inches long outside and 3 inches wide. There were no sham nests nearby.

The female was well seen, and she scolded vigorously while I despoiled her nest, behaving exactly like a Long-bill. The male was heard singing nearby, but was not observed, and his song differed somewhat from that of his larger relative. However, he was seen on June 14, when I made an unsuccessful search for the nest which I had left so as to induce the birds to lay the remainder of the eggs, nor could I find any other nest that I could positively identify as belonging to *Cistothorus stellaris*, although I hunted diligently. That the bird had a nest I am positive, but it was overlooked, as the marsh was a large one, with the cat-tails growing in large, dense patches.

It has been stated by some ornithologists that the nest of the Short-

billed Marsh Wren differs materially from the Longbill's domicile, and still others have said that the Short-bill does not nest over water or in company with their erratic relative. Yet the nest I found could not be distinguished by any one from a Long-bill's, and it was, as I have mentioned, over deep water and in a marsh inhabited by a large colony of Long-billed Marsh Wrens. As I found only one nest, however, I can not base any important conclusion upon it.

Further investigations by ornithologists who are not afraid of marsh wading in the vicinity of Philadelphia will no doubt lead to the discovery of the Short-billed Marsh Wren at other localities as a rare breeder, for there are many marshes and swamps along the Delaware and its tide-water tributaries that are never invaded by an ornithologist during the summer. It is a bird of local distribution everywhere, and as erratic as the Long-bill in its habits, and it may be found in the most unlooked for localities. I may mention in conclusion that there are one or two doubtful records of the nesting of the Short-billed Marsh Wren in this vicinity.—  
RICHARD F. MILLER, *Philadelphia, Pa.*

**Breeding of the Tufted Titmouse in Washtenaw County, Michigan.**—Of rare occurrence within Washtenaw County, Mich., the Tufted Titmouse (*Baeolophus bicolor*) has hitherto always been looked upon as a winter visitant. Some years, as in 1903, they have been fairly abundant, but generally speaking only an occasional one has been noted here during the months from late fall to early spring, but never as a breeding species. Mr. N. A. Wood of the University Museum has frequently stated that he believed the bird would eventually be found as a summer resident within the county.

On May 24, 1908, it was my good fortune to find a nest of this species in an extensive swamp of oak, ash, elm and maple with a tangled undergrowth of various shrubs, situated some seven or eight miles west of Ann Arbor. The discovery was one of those accidents, so to speak, that frequently occur in field-work and which lend an added charm to the study of bird-life. It came about in the following manner. While preparing to refresh the 'inner man' my ear caught the clear, whistled *peto, peto* of the Tufted Titmouse but the bird was not located until a few moments later. At that time my companion drew my attention rather suddenly to it on a rail-fence almost immediately in front of us where it appeared to be examining the half-decayed rails for insects. Presently it secured a large, white grub from one of them and with a whistle of exultation proceeded to beat and peck it about the head. Apparently becoming satisfied with its condition after that operation the bird flew off into the woods with its victim. Before its destination could be ascertained the titmouse was back again examining the trees, hanging onto the leaves and terminal twigs just like a Chickadee. Its sweet, plaintive note, *peto, peto* or *whe-o, whe-o*, was constantly in the air, coming from various parts of the wood-

land as an announcement of the whereabouts of the author. After ranging over the trees in the immediate neighborhood the titmouse returned to the rail-fence and there seemed to find much to its liking for in a short time its beak was crammed with moths and flies. Taking wing, it flew in the same direction as before, straight for the heavier part of the woods. Following rapidly after it, the nest was discovered in the dead and broken branch of a stately elm, some 50 or 60 feet from the ground. An old, abandoned woodpecker's cavity had been appropriated and filled, as far as could be ascertained through the glass, with dried grass, etc. It was utterly impossible to reach the nest without the aid of climbing-irons and of these none were at hand.

Although we waited about the vicinity of the nesting-tree for over half an hour the titmouse would not return but circled about among the surrounding trees, calling now in low whistles and then again in clear, defiant tones. Long after we had left the place we could still hear the notes. Only one bird was observed about the place and, judging from the clear coloration of the plumage and the frequent whistling, it would be safe to say that the one under observation was the male. Such being the case the female was either absent entirely from the nest or vicinity or was engaged with brooding and was being fed by her mate. The large size of the insects taken to the nest would point to the latter conclusion. Similar traits of character have been observed in the common Chickadee by Mr. N. A. Wood, and they would not be impossible in this species.—A. D. TINKER, *Ann Arbor, Mich.*

**Massachusetts Records.**—I have lately received for the Thoreau Museum of Natural History a female Golden Eagle (*Aquila chrysaetos*) taken by a farmer, Mr. Jacob Williams, ten miles northwest of Richmond, on November 28, 1906, and presented to this Museum by Messrs. D. P. & J. E. P. Morgan; a male American Goshawk (*Accipiter atricapillus*), taken by Mr. William Francis in January, 1908, in the Hoar Woods, Concord, Mass.; and a male Prairie Horned Lark (*Otocorys alpestris praticola*), taken by Mr. F. MacDonald Barton on February 19, 1908, on the school grounds, out of a flock of eight or ten. It seems probable that the inland flocks of Shores Larks are for the most part of this species. Though no others out of this or other flocks common here have been shot, they appear through the glass to be *praticola*.—REGINALD HEBER HOWE, Jr., *Concord, Mass.*

**Early Nesting Records from Washington State.**—The following personally taken records were made by me this spring in the vicinity of Tacoma, Pierce Co., Wash.

March 30th: Besides a large number of decoy nests, I found one nest of the Tule Wren containing two fresh eggs. On the same date I also found a nest of the Virginia Rail containing four eggs. The two nests were not fifty feet apart. When I went to collect these sets on April 6, I found two

more nests of Tule Wren containing eggs that were almost ready to hatch. These last two sets must have been complete on or before my previous visit.

My other early record is a nest and four eggs of the Killdeer taken April 14, that were almost one half incubated.

Of the above records it is probable that the wrens may not be greatly out of the general rule, but those of the Rail and the Killdeer I should consider most exceptional.— J. H. BOWLES, *Tacoma, Wash.*

**Notes on Missouri Birds.**— On examining Mr. Widmann's 'A Preliminary List of Missouri Birds' I find I have notes on several birds not reported from Missouri. At his suggestion I send them to you for a place among the 'General Notes' in 'The Auk.'

November 16, 1899, I saw a White-winged Crossbill feeding under some evergreen trees in a cemetery in town. It allowed me to stand watching it for a long time.

On Dec. 3, 1903, I saw a female Pine Grosbeak in a red cedar in a yard in town. It seemed sluggish and did not fly though I approached it closely.

In 1904 I saw Carolina Wrens in March, April, May and June, and I think it was the spring of this year that one commenced building in a gourd hanging in a lilac bush about four feet from the ground and within a few feet of our dining room window. It worked industriously for three or four days during the last week of March and then disappeared, and the House Wrens afterwards took possession of the site. This spring a pair built over a door in an outhouse in the garden and this time I think they succeeded in raising their brood, though we saw nothing of them. We could not see into the nest and the birds did not alight near it, but the male would fly to a pile of boards about thirty feet away and sing as though he would fly into pieces, and then suddenly dart towards the nest and fly through the door so swiftly that he was almost invisible. The first of May we found the nest torn to pieces. We thought the House Wrens did it.

In the spring of 1907 I saw a European Goldfinch in a pasture where American Goldfinches flock in winter and breed in summer.— M. SUSAN JOHNSON, *La Grange, Mo.*

**Bird Notes from Southeastern Michigan.**— 'Recent Ornithological Developments in Southeastern Michigan,' by Messrs. Swales and Taverner (*Auk*, XXIV, p. 135), was of especial interest to me owing to its local nature, but while present conditions are faithfully depicted prior knowledge is somewhat vague, and I submit the following as additional data.

**Larus delawarensis.** RING-BILLED GULL.— This gull is of regular occurrence here beyond all question. I first learned to identify it in the fall of 1890, but classed it distinct from the Herring Gull as early as 1886. The first examined were two birds shot by Mr. Rad C. Ouellette, November

8, 1890, while he and I were duck hunting about three miles south of Sandwich on the Canadian side of the Detroit River. From that date I have observed it every year and in uniform numbers. It congregates about the sewer outlets along the river frontage of Detroit, being most abundant along the western portion. It is fearless and frequently comes within twenty feet of the observer. Whenever possible I have examined it through the transit telescope in the hope of discovering a Kittiwake (*Rissa tridactyla*). The ringed bill, combined with its lesser size as compared to the equally common Herring Gull, renders identification easy and further verification has come to light from time to time in the form of mounted specimens. It is abundant at times in spring, less so in fall, and a few remain all winter. During the exceptionally mild month of January, 1890, it was noted daily on the lower St. Clair River, which is all I know of it in that locality from personal observation. In February, 1892, an adult bird passed over my head in Ecorse Township, several miles inland, and none have since been seen in a similar locality during the winter months.

***Sterna forsteri*.** FORSTER'S TERN.—The specimen recorded by Messrs. Swales and Taverner was taken on the Canadian side of the Detroit River just below Sandwich. It should be recorded for the upper Detroit River and, of course, is not a Michigan record.

***Sterna caspia*.** CASPIAN TERN.—I have not seen this species along the Detroit River but believe numbers pass through this channel every year. The large flocks seen December 1 and 2, 1907, on the Michigan side of the St. Clair Flats were all flying across Lake St. Clair toward the Detroit River. They were in compact flocks and moving rapidly without a pause to feed.

***Phalacrocorax dilophus*.** DOUBLE-CRESTED CORMORANT.—In March and April, 1892, to and inclusive of 1894, I spent a part of my noon hours watching the migration of water fowl from the city docks and cormorants were frequently noted, sometimes in small flocks of seven or eight but usually singly or in pairs, always passing up the river. This is the only place where I have seen them in spring. November 6, 1892, one passed my decoys off Sugar Island, lower Detroit River, and three were perched on a rocky point of Celeron Island November 12, 1903.

***Chaulelasmus streperus*.** GADWALL.—Before the sale of game was prohibited in the State I closely watched the city markets, and despite the reputed rarity of the Gadwall four were noted there in late April, 1893; all claimed to have been taken on the St. Clair Flats. None seen elsewhere.

***Spatula clypeata*.** SHOVELLER.—A male and two females were for sale in the city market in April, 1894, and a male in September, 1895. None seen elsewhere but several reported from the lower Detroit River. While on the subject of ducks I wish to state that none of the Scoters found their way to the city markets, though most of the old duck hunters claim to have shot them. The probable reason is the fact that Scoters are locally regarded as unfit for food.

**Olor columbianus.** WHISTLING SWAN.—During the last sixteen years I have personally examined nine Whistling Swans — five secured from a large flock in March, 1896, near the head of Fighting Island on the Canadian side of the Detroit River, one from the same locality taken in November, 1905, two in the city market at different times and said to have come from the St. Clair Flats, and one I found dead on the shore of Sugar Island November 6, 1892.

**Olor buccinator.** TRUMPETER SWAN.—One specimen in the city market in November 1893. Was taken near Wind Mill Point, Lake St. Clair, according to the statement of Thomas Swan.

**Nycticorax nycticorax nævius.** BLACK-CROWNED NIGHT HERON.—Though apparently rare in recent years this species was a rather common summer resident in Ecorse Township, Wayne Co., some twenty years ago and abundant at the St. Clair Flats in the early eighties. The late W. H. Collins personally informed me that he visited a breeding colony on or near Dickinson's Island consisting of about two hundred pairs. This was in 1880, if I recollect correctly. My visit was seven years later when I covered about six miles of the middle channel but failed to see a heron of this species; however, I was not nearer to Dickinson's Island than two miles nor along the channels where the birds were most liable to occur; but Mr. Collins' statement is beyond question verified, as it is, by J. H. Langille in 'Our Birds in Their Haunts.' Mr. Langille speaks of dozens at a time wheeling buzzard-like high above Dickinson's Island, and such a movement by even a few birds could not have escaped my notice; so, in all probability, the birds decreased greatly in numbers during the four years between Mr. Langille's visit and my own. The Ecorse birds were all observed on the marshes in the present village of River Rouge. They were undoubtedly all members of the same colony, as they invariably left the marshes in the same westerly direction, rising to a considerable height and crossing the open lands well above gun shot range. They were equally wary about the marshes, and the only explanation of their extermination is wholesale slaughter on their nesting grounds. The late G. J. Wood informed me they were summer residents on these marshes during his thirty years of field work in the vicinity of this city. He seldom went there in summer without meeting with the birds but spoke of them as present in small numbers only. From his account, combined with my experience, I believe these herons occurred in uniform numbers inclusive of 1888; they then became rare and the last seen by me was an immature specimen at Mr. Wood's residence in August, 1890.

**Steganopus tricolor.** WILSON'S PHALAROPE.—I do not consider this species of great rarity here. In 1891 John Parker claimed to have shot one the previous year on the lower Detroit River and from that time it has been reported to me occasionally from the St. Clair Flats. Mr. Walter C. Wood met with it there in June, 1900. He was rowing a boat on one of the numerous channels through the marshes on the Michigan side of the Flats.

when he saw a female on some floating vegetation near the channel margin. It was very tame. He stopped the boat and watched it for some time at less than ten yards, then passed on without alarming it to flight. In June, 1904, Jesse T. Craven and party met with this phalarope in practically the same portion of the Flats, and under circumstances that convinced them the birds were breeding. In 1889 the late W. H. Collins told me that he found phalaropes in summer on the Flats, and I believe that at least a pair or so still summer there and probably breed. I made no attempt to find the Wilson's Phalarope here in Wayne County until 1907 when I decided to take a pair if possible, and secured a male and female May 19 on P. C. 667, Ecorse Twp. This was the first and only day I looked for them.

**Actodromas fuscicollis.** WHITE-RUMPED SANDPIPER.—The status of this sandpiper in the State has been discussed but I wish to add that Mr. Herbert H. Spicer and myself again found the species common in 1907 and secured specimens. The first appeared May 26 on P. C. 667, Ecorse Twp. We found it impossible to make an exact count but estimated the number of individuals seen as fifty. During the remainder of the month and early June we found them present on all visits and the last seen was a flock of fourteen, June 6, on P. C. 588, City of Detroit.

**Charadrius dominicus.** GOLDEN PLOVER.—In early May, 1894, a string of about two dozen Golden Plover were for sale in the city market. I examined these birds and am positive as to identity. Sometimes, numbers were on sale in autumn but I now believe the majority of these were the Black-bellied Plover, and the uncertainty destroys all scientific value.  
—J. CLAIRE WOOD, Detroit, Mich.

**Four Rare Birds in Southeastern Michigan.**—The past spring in this section was made interesting by the capture of four rare birds in the vicinity of Detroit. These were all brought into Mr. Arthur Borck's taxidermy establishment where, through the courtesy of the proprietor, I was enabled to examine them in the flesh and secure one for my collection.

**YELLOW RAIL, *Porzana noveboracensis*.**—A female was caught alive by a dog March 25, north of and just beyond the city limits. Another bird of the same kind was said to have been flushed immediately afterwards but could not be secured. The one taken was presented to me. I endeavored to keep it alive but without success. It refused to eat and grew so weak that I had to kill it and make it up into a skin. It is No. 1028 in my cabinet.

**CASPIAN TERN, *Sterna caspia*.**—The writer, in collaboration with Mr. B. H. Swales, presented the known status of this bird to 'The Auk' readers a short time ago (Auk, 1907, XXIV, 137). It pleases me to be able to state that the required absolute data of the bird's occurrence near this city has been obtained. April 26, I examined a bird taken the day before at Hooker's Point, Lake St. Clair. Two were said to have been shot, though but one was brought in to be mounted.

BARTRAMIAN SANDPIPER, *Bartramia longicauda*.—This bird had been deemed extinct in the County for some years. May 3, however, one bird was taken by some trap shooters just outside the northern limits of this city. It rose from the grass where they were shooting and flew around the traps several times until one of the shooters dropped it. None others were seen.

AMERICAN WHITE PELICAN, *Pelecanus erythrorhynchos*.—May 29, a fine and seemingly adult bird of this species was killed near Strawberry Island, St. Clair Flats, by Mr. Frank Meloche. As far as I was able to find out it was the only one seen.

I may add further that a Pine Siskin (*Spinus pinus*) was taken on May 19, 1908, on Grosse Isle, in the lower Detroit River. It was a male, with poorly developed testes, showing no signs of immediate breeding. This species has been reported from adjoining Ohio stations, and hypothetically from Point Pelee, Ontario, at like seasons of the year, but this is the first specimen taken, to my knowledge, in Wayne County.—P. A. TAVERNER, *Highland Park, Mich.*

**Wilson's Phalarope and White-rumped Sandpipers in Wayne Co., Mich.**  
—WILSON'S PHALAROPE, *Steganopus tricolor*.—May 9, 1908, I had the pleasure of taking another Phalarope of this species in the same mud-hole in Ecorse Twp., Wayne Co., Mich., in which my previous record was made (Auk, XXIII, 1906, 335). It proved to be a female and was the only one seen.

WHITE-RUMPED SANDPIPER, *Actodromas fuscicollis*.—May 23, 1908, six were observed and two taken by myself in the same locality as above.—P. A. TAVERNER, *Highland Park, Mich.*

**Two Ontario Records.**—BLUE-WINGED WARBLER, *Helminthophila pinus*. September 2, 1906, I took a juvenile bird of indeterminate sex from a grape vine tangle, near the end of Point Pelee, Ontario. This forms, I believe, the primal record for the species in Canada. The next day another bird, supposed to be the same, was shot but could not be found in the thicket.

TURKEY BUZZARD, *Cathartes aura*.—April 24, 1908, I received a bird of this species in the flesh from Point Pelee, Ontario. It was perfectly fresh and could not have been killed more than a couple of days. On dissection it proved to be a female with ovaries considerably enlarged. We have had reports of this bird's breeding near Hallow, about eighteen miles west of the Point, and have seen birds on Point Pelee itself May 20, 1906 (Willson Bull., 1907, 91).—P. A. TAVERNER, *Highland Park, Mich.*

## RECENT LITERATURE.

**Walter on Bird Migration.**<sup>1</sup>— After presenting several pages of general comment, the author proceeds to treat of bird migration under the two questions, "I. How do Birds find their way in Migration?" and "II. Why do Birds migrate?" under which he reviews, in the main to condemn, various theories that have been put forth in answer, and announces as his 'conclusion': "There still remains an immense halo of mystery around bird migration because there are so many things we do not know. We not only do not know *why* birds migrate but as yet we do not know *how* they migrate except in a general way."

Under the first question he properly condemns the "instinct theory" as a confession of ignorance. The "magnetism theory" of von Middendorff and the "semicircular canal theory" of Mach-Bruer are both found wanting, the latter having been thoroughly refuted by the experiments of Exner upon pigeons. He deals a little more kindly with the "sense of direction theory," but as it lacks the demonstration of a "physical basis," he deems it "is hardly better than the instinct theory since it gives the answer to the problem in unknown terms."

The "landmark theory," he states, has rather more to recommend it. Thus, he says: "Exner came to the conclusion that carrier pigeons find their way home by seeing familiar landmarks and when such landmarks are not visible the birds explore until landmarks are found. This explains how his pigeons, whether whirled, galvanized or narcotized, were quite as well able to get home as those which had not undergone such interference with their sensory impressions upon the outward journey." But he adds: "The objection must be raised to the landmark theory, however, that many birds do not follow river valleys, coast lines or mountain chains in the way they might be expected to do if they were guided by what appear to us to be the most obvious landmarks." It does not follow, however, that because birds do not always follow river valleys or mountain chains, but pursue courses more or less divergent from them, that they do not serve them as landmarks for their journeys. The recognition of such landmarks would be sufficient for their guidance whether their lines of migration are parallel or more or less oblique to the general trend of mountain ranges or river valleys.

He concludes that in the case of carrier pigeons "the successful individuals are those who have been trained over the course, that is, those who have learned the way either by seeing landmarks for themselves or by following a trained companion. There is no mysterious sixth sense of direction, no crossing of imaginary magnetic lines, no intricate automatic

---

<sup>1</sup>Theories of Bird Migration. By Hubert Eugene Walter, Ph. D., Brown University. Reprinted from 'School Science and Mathematics,' April-May, 1908. 8vo., 16 pp., without pagination.

registry of distance and direction by means of the semicircular canals. It is simply a case of a home-loving animal away from home putting its wits and senses and experiences together to get back to its home and in this case these known resources are sufficient for the task. Why may not this also," he reasonably asks, "be the true explanation of the manner in which birds find their way on those greater pilgrimages we call migration?"

The "follow-the-leader theory" is accorded "a large element of probability," for which he argues at considerable length. Thus he concedes that "it seems reasonable to believe that the manner in which it [migration] is carried out, the way in which the path is followed, may find an adequate explanation in the temporary leadership of some individual within sight or hearing of the others, who knows at least a fraction of the way by experience or who strikes out a safe path by means of landmarks."

Under the second question "Why do Birds migrate?" various hypotheses are weighed, only to be found wanting. Decrease of temperature does not satisfactorily explain fall migration, because "the fall migration is largely completed before the weather becomes cold"; but scarcity of food, dependent upon the low temperature of winter, is admittedly an important factor.

The "premonition theory" of Brehm, which, he says, "at first thought seems entirely fanciful," in reality "contains a large element of probability," since by virtue of their peculiar anatomical structure — large lungs, pneumatic bones, and internal air sacs — they "are, to a remarkable degree, living barometers, responding with great delicacy to changes in barometric pressure." Yet "that birds can anticipate winter and as a result make an effort to avoid its disastrous effects, is beyond demonstration and seems quite unlikely."

The "short day theory" also "suffers, as does many another, because of a few obtrusive incontrovertible facts," as "the migration south begins before the days are perceptibly shorter." In reality, however, this is hardly true, even in the far north, whatever there may be in the theory.

In this connection he again recurs to the "food supply theory," to which he objects on the ground that "it must be admitted that a large per cent. of migrating species leave for the south in the very height of the seed and insect harvest." Yet, he adds, "upon the ground of food supply, natural selection would promptly eliminate those who did not go south and would tend at the same time to favor the perpetuation of those who varied in the direction of southern migratory habits, whatever the cause of those variations might be." What he intends the reader to infer from these statements as to his position on the "food supply theory" is not very clear.

The author now proceeds to consider the theories to account for the spring migration, giving attention first to "the instinct theory," of which he says: "That it is a bird's *instinct* to go north in the spring is no better an explanation of the origin of migration than it is of how a bird finds its way during migration" — a truism no one will question. Then are taken

up in turn "the homesick theory," "the desire to disperse theory," "the nestling food theory," "the safe nesting theory," all of which are given short shrift, mostly with reason. Some half-dozen "ancestral-habit" theories are also cited and summarized. Many of the postulates attributed to the authors mentioned did not, however, originate with them nor at the dates implied, but were of much earlier origin and in a measure common property long before the implied dates. The principal factor put forward by Marek in 1906, that of the influence of barometric pressure — birds migrating from areas of high barometric pressure to areas of low barometric pressure — was stated in substance, and nearly in the same terms, by Cooke a dozen years before; and so with the main points of other recent theories here summarized, some of which were brought out by American writers twenty years before the implied date of origin here given. This is not said in disparagement of the later authors cited by Mr. Walter. For example, Marek's explanations of how and why birds migrate is based on his own independent and extended original investigations of the movements of birds in Europe, and is none the less interesting and valuable because it is in the main confirmatory of earlier investigations and conclusions made elsewhere, and for many years more or less generally accepted by those who are best acquainted with the real facts of migration. Thus, Walter says: "From his [Marek's] point of view there is no necessity for referring the habit of migration to hypothetical ancestral behavior, nor for endowing birds with such human attributes as love of home or the memory of previous successes. The streaming northward of birds in the spring and their return southward in the fall are both primarily dependent upon the same observable external factors as those which cause the flow of the air in the form of prevailing winds, northward in the spring and southward in the fall."

While no facts in relation to the habits and behavior of animals are in the main better established than the above, Mr. Walter is able to see only "an immense halo of mystery around bird migration." This is perhaps due to his having overlooked a principle of prime importance, or to which at least there is no allusion in his very interesting summary of the subject. This is the intimate interrelation of the impulse of migration and the function of reproduction. As we stated the case some fifteen years ago: "If we consider that migration consists really of two movements — that is from the breeding station to the winter quarters and then back again — and that the one movement is the necessary complement of the other, it is hardly necessary to seek for a separate cause for the two movements; the two together constitute migration in a complete sense, which, as already explained, is an inherited habit, — an inherent, irresistible impulse, closely blended with the function of reproduction. The promptings which lead to the migratory movement, respectively in fall and spring, have unquestionably a different origin; the autumnal movement being doubtless [at least primarily] prompted by a reduction of temperature and

a failing food supply, while the spring movement is incited by the periodic activity of the reproductive organs, resulting in the necessity for the return of the species to the peculiar conditions and surroundings to which for long ages it has been undergoing special adaptation — in other words, to its home."<sup>1</sup> This is not, however, necessarily the place of origin of the species, which, in the case of many of our Warblers, Tanagers, Flycatchers, etc., may well have been within tropical latitudes, which are now merely their winter resort and not their *home* or place of reproduction.

In the discussion of migration the great fundamental fact that the life of animals, and especially of migratory animals like birds, is made up of annual cycles, as is the life of plants, which have their fixed and determinate seasons for flowering and fruiting, is generally overlooked. Attention was long since directed to this factor by Chapman, but it seems not to have received the attention to which it is entitled. After referring to the fact that many animals manifest a desire for seclusion during the period of reproduction, and that "many species of tropical sea-birds resort each year to some rocky islet, situated perhaps in the heart of their habitat, where they may nest in safety," he continues: "This is not migration in the true sense of the word, but nevertheless the object is the same as that which prompts a Plover to migrate to the Arctic regions, and, be it noted, is just as regular. . . . As in the case of a Warbler which nests in Labrador, they are all affected at nearly the same time by an impulse which urges them to a certain place. This impulse is periodic and is common to all birds. . . . It is evident, therefore, that external conditions have not created this impulse, though it is possible that in many instances they may have governed its periodicity. On the contrary, its causes are internal. In the case of the sea-birds, for example, dissection will show an enlargement of the sexual organs and it is this physiological change which warns the birds that the season of reproduction is at hand."<sup>2</sup> And, it may be added, prompts them to seek their accustomed breeding resorts, be they nearby rocky islets or remote arctic or subarctic latitudes. We have here the key to the impulse of the spring migration, of which the return migration in the fall is the necessary complement, inasmuch as in most instances the winter conditions of the breeding grounds of most species are prohibitive of their continued residence therein throughout the year.

How they find their way in their migrations is certainly remarkable and implies wonderful gifts of which we have no intimate knowledge, but enough, it would seem, fairly to remove the subject from the realms of that complete mystery so many writers seem to take pleasure in involving it. In addition to keen powers of vision and a retentive memory, which together enable them to distinguish landmarks, and a remarkable sensitiveness to meteorologic conditions, they may also possess a, to us, mysterious sense of direction, as shown by the recent experiments of Dr. J. B. Watson with Noddies and Sooty Terns. Dr. Alfred G. Mayer, Direc-

<sup>1</sup> Auk, X, 1893, p. 104.

<sup>2</sup> Auk, XI, pp. 13, 14.

tor of the Department of Marine Biology of the Carnegie Institution of Washington, in his annual report for 1907, states, in reference to the work of Prof. John B. Watson of Chicago University on the behavior of Noddy and Sooty Terns, that "Among other things, he demonstrated that if sooty terns and noddies were taken to Cape Hatteras and there liberated they would return to their nests on Bird Key, Tortugas, a distance of 850 statute miles from their place of liberation." Prof. Watson's full report on these experiments has not yet appeared, but Mr. Chapman gives some of the details and comments on the matter in 'Bird-Lore' for May-June, 1908 (p. 134) as follows:

"We have before referred to the studies of Noddies and Sooty Terns by Prof. John B. Watson on Bird Key, Tortugas, during the nesting season of 1908, and in the annual report of Dr. Alfred G. Mayer, Director of the Department of Marine Biology of the Carnegie Institution, under the auspices of which Professor Watson's researches were made, there appears a preliminary report of this work. The final report will appear during the year, and we will call attention here, therefore, only to Professor Watson's supremely interesting tests of the homing instincts of Noddies and Sooty Terns. Fifteen marked birds were taken from the Key and released at distances varying from about 20 to 850 statute miles, thirteen of them returning to the Key. Among these thirteen were several birds which were taken by steamer as far north as Cape Hatteras before being freed.

"This experiment is by far the most important in its bearing on bird migration of any with which we are familiar. It was made under ideal conditions. Neither the Noddy nor Sooty Tern range, as a rule, north of the Florida Keys. There is no probability, therefore, that the individuals released had ever been over the route before, and, for the same reason, they could not have availed themselves of the experience or example of migrating individuals of their own species; nor, since the birds were doubtless released in June or July, was there any marked southward movement in the line of which they might follow. Even had there been such a movement, it is not probable that it would have taken the birds southwest to the Florida Keys, and thence west to the Tortugas. This marked change in direction, occasioned by the water course, which the birds' feeding habits forced them to take, removes the direction of the wind as a guiding agency, while the absence of landmarks over the greater portion of the journey, makes it improbable that sight was of service in finding the way. Professor Watson presents, as yet, no conclusions, but, while awaiting with interest his final report, we cannot but feel that his experiments with these birds constitute the strongest argument for the existence of a sense of direction as yet derived from the study of birds. With this established, the so-called mystery of migration becomes no more a mystery than any other instinctive functional activity."—J. A. A.

**Cherrie on Trinidad Birds.**<sup>1</sup>—As the result of a month's collecting, in March, 1907, in which time 300 specimens, representing 96 species, were collected by him, Mr. Cherrie records five species as new to the list of Trinidad birds. One of these species, *Chatura cinereicauda*, is erroneously given, having been previously collected and recorded by Mr. F. M. Chapman. Furthermore, the specimens on which the latter record is based, and with which Mr. Cherrie's bird will doubtless be found to agree, prove to be not the true *cinereicauda* but a new species which Dr. Hellmayr has recently described as *Chatura chapmani*.

Of the remaining four species, two had previously been taken on the small island of Monos, only a few hundred yards from Trinidad and, as Mr. Cherrie remarks, so close to the larger island that birds of the weakest flight might readily pass back and forth.

*Catharus melpomene costaricensis* and *Leptopogon superciliaris*, represent genera as well as species entirely new to Trinidad, and have never been taken on the neighboring small islands.

The Trinidad *Megarhynchus* which Mr. Cherrie recently proposed to call *M. pitangua parvirostris* is now considered doubtfully separable, on account of the variation in size of bill found among the continental birds.

This list is annotated with remarks on abundance, and exact localities and dates of many specimens are given. The colors of the changeable parts of many species are recorded, and there are also interesting notes on habits, song and nesting.—W. DEW. M.

**Bangs 'On Certain Costa Rican Birds.'**<sup>2</sup>—In this paper, based mainly on collections made by C. F. Underwood, the following seven new forms are described: *Trogon underwoodi*, *Pachyrhamphus versicolor costaricensis*, *Myiobius xanthopygus aureatus*, *Troglodytes ochracea ligea*, *Myioborus aurantiacus acceptus*, *Phrygothraupis sanguinolenta aprica* and *Emberizoides sphenura lucaris*.

Mr. Bangs remarks that the characters of several of these forms have already been pointed out by Ridgway in his 'Birds of North and Middle America,' and more ample material has convinced the describer of the desirability of providing them with names.

Additional specimens of *Chlorospingus zeledoni* and *Thryorchilus ridgwayi* confirm the standing of these local species. Cassin's name *bryanti* is taken up for the Costa Rican subspecies of *Spinus xanthogaster*, which of late years has not been recognized as distinct, and a hummingbird, *Lophornis delatirii*, is recorded for the first time from Costa Rica.

Mr. Bangs' material also enables him to clear up the confusion that has existed concerning the Costa Rican swifts. In addition to *C. gaumeri* and

<sup>1</sup> On a Second Small Collection of Birds from the Island of Trinidad. By George K. Cherrie. Science Bulletin, Museum of the Brooklyn Institute of Arts and Sciences, Vol. I, No. 13. Published March, 1908.

<sup>2</sup> On Certain Costa Rican Birds. By Outram Bangs. Proceedings of the New England Zoological Club, Vol. IV, pp. 23-35. March 19, 1908.

*C. vauzi*, two distinct species of *Chatura* are recognized, *C. cinereiventris phaeopygos* and *C. spinicauda fumosa*.—W. DEW. M.

'Cassinia.'—'Cassinia, A Bird Annual,'<sup>1</sup> "devoted to the ornithology of Pennsylvania, New Jersey, and Delaware," comprises seven papers, followed by an 'Abstract of Proceedings,' a bibliography (including (1) ornithological papers for 1907 by members of the Club, and (2) additional papers relating to the birds of Pennsylvania, New Jersey and Delaware), a list of the members of the Club, and an index. The place of honor is accorded to Witmer Stone's interesting biographical sketch of Adolphus L. Heermann, M. D., who was born, it is supposed, in South Carolina in 1818, and who died at San Antonio, Texas, September 2, 1865. Dr. Heermann is well known as one of the naturalists of the Pacific Railroad Surveys, he having been surgeon and naturalist to Lieutenant R. S. Williamson's expedition, in 1853-54. Previously Heermann had made a large collection of birds in California, and is further known to bird students through the names of two species of California birds, a gull and a sparrow, dedicated to him by Cassin. Mr. Stone has been unable to present a very detailed or connected history of his life, but the facts here brought together are most welcome. The accompanying portrait of Heermann is from a daguerreotype and represents him as attired on one of his western expeditions. The titles of the other papers are: 'Some Birds of Brown's Mills, N. J.,' by Cornelius Weygant; 'Type Birds of Eastern Pennsylvania and New Jersey,' by Spencer Trotter,—an interesting list, with comment, of species first made known from birds obtained in this region; 'Bird Life of the Indian River Country of Delaware,' by Charles J. Penneck; 'A Pensauken Diary,' by Chreswell J. Hunt (with two half-tone plates); 'Report on the Spring Migration of 1907,' compiled by Witmer Stone (pp. 54-79). The average attendance at the sixteen meetings of the Club held during the year was 24, with a maximum attendance on one or more occasions of 51.—J. A. A.

**Beebe on the Seasonal Changes of Color in Birds.**<sup>2</sup>—The investigations here reported relate to the Scarlet Tanager and the Bobolink. Birds of each species in full nuptial plumage and still in the height of vocal and physical conditions were placed in small cages in a quiet room, and the supply of light gradually cut off and the amount of food increased. When the time for the autumnal moult arrived not a single feather was shed. "In brief, the birds skipped the fall moult entirely and appeared to suffer no inconvenience whatever as a result." They showed only the symptoms of inactivity produced by excessive fatness; early in the experiment they

<sup>1</sup> Cassinia, A Bird Annual. Proceedings of the Delaware Valley Ornithological Club of Philadelphia, 1907. Issued March, 1908. 8vo, pp. 98, and 3 half-tone plates. Price, 50 cents.

<sup>2</sup> Preliminary Report on an Investigation of the Seasonal Changes of Color in Birds. By C. William Beebe. American Naturalist, Vol. XLII, Jan. 1908, pp. 34-38.

ceased to sing, and after a good layer of fat had been acquired they seldom uttered even a chirp. Early in the following spring the birds were placed under normal conditions, and they soon moulted into the condition appropriate to the season; in other words, they moulted immediately into the nuptial plumage, the autumn moult and the dull plumage of winter having been completely omitted. "I think we thus have proof," says Mr. Beebe, "that the sequence of plumage in these birds is not in any way predestined through inheritance bringing about an unchangeable succession, in the case of the Tanager, of scarlet — green, scarlet — green, year after year, but that it may be interrupted by certain external factors in the environmental complex." These interesting results could not have been foreseen, and we await with interest the result of Mr. Beebe's further experiments along these lines.— J. A. A.

**Contributions to Philippine Ornithology.**— No. 5 of Vol. II (October, 1907) of the 'Philippine Journal of Science' contains 14 papers on Philippine birds, of which 9 are by Richard C. McGregor, 2 by Dean C. Worcester, 2 by Dr. Edgar A. Mearns, and 1 by Dr. R. W. Shufeldt (noticed *antea*, p. 245). These vary in length from a note on a single species to a list of the species of an entire island, as follows: 'On a Nesting Specimen of *Caprimulgus griseatus* Walden,' by D. C. Worcester, pp. 271-273, with 2 half-tone plates; 'On a Nesting Place [Didikas Rocks] of *Sula sula* (Linn.) and *Sterna anæsthesia* Scopoli,' by D. C. Worcester, p. 175, and 1 half-tone plate; 'Notes on a Collection of Birds from the Island of Basilan, with Descriptions of three new Species,' pp. 279-291, by R. C. McGregor — 151 species, 29 here for the first time recorded; 'Descriptions of four new Philippine Birds,' by R. C. McGregor, pp. 292-294; 'The Occurrence of Blythe's Wattled Lapwing and Scaup Duck in the Philippines,' by R. C. McGregor, p. 295; 'Notes on a Bird unrecorded from Mindanao,' by R. C. McGregor, p. 296 — *Rhaldornis inornata* Grant; 'Notes on [three] Specimens of Monkey-eating Eagle (*Pithecopaga jefferi* Grant) from Mindanao and Luzon,' by R. C. McGregor, p. 297; 'Notes on Birds collected in Cebu,' by R. C. McGregor, pp. 298-309 — 149 species, 24 previously unrecorded; 'Birds observed in Bantayau Island, Province of Cebu,' by R. C. McGregor, pp. 310-314 — 66 species; 'The Birds of Bohol' by R. C. McGregor, pp. 315-333, and a half-tone plate of *Circus melanoleucus* — 145 species, 91 here first recorded, 2 new; 'The Birds of Batan, Camiguin, Y'Ami, and Babuyan Claro, Islands north of Luzon,' by R. C. McGregor, pp. 337-349 and 5 half-tone plates — 78 species, 1 genus and 7 species described as new; 'Two Additions to the Avifauna of the Philippines,' by E. A. Mearns, p. 353 — *Butorides spodiogaster* (Sharpe) and *Spodiopar cineraceus* (Temm.); 'Description of a new Genus [*Malindangia*] and nine new Species of Philippine Birds,' by E. A. Mearns, pp. 355-360 — with a key to the Philippine species of *Merula*.

As indicated by the titles and comment, these papers form an important contribution to Philippine ornithology.— J. A. A.

**Menegaux on the Birds of the French Antarctic Expedition.**<sup>1</sup>—The birds included in this report number 23 species, of which only 21 are Antarctic. Sixteen are represented by specimens — 150 skins, besides many eggs, and eggs and young preserved in alcohol for anatomical and embryological study. Most of the species are treated at considerable length, with special reference to their habits and seasons of migration, moult, etc. The account of the 'Papou' (*Pygoscelis papua*), occupies ten pages and summarizes, apparently, all that is known of its life history. The account is decidedly 'humanized,' but is none the less entertaining and interesting. The other Penguins, the single species each of Cormorant, Gull, Tern, and the Giant Skua, are also treated in a similar way, but at less length.

For the Penguins the author prefers the French vernacular name 'Manchot' to that of 'Pingouin,' on the ground that the latter was given originally to the Alca of the northern hemisphere and later extended to the Penguins of the Antarctic. When Brisson, in 1760, separated the two groups he applied the term Manchot to the Sphenicidae and restricted the term Pingouin to certain members of the Alcidae, which distinction was later adopted by Buffon, but almost uniformly disregarded by later authors. While the proposed change is proper, it will doubtless be as hard to establish as it is to eradicate other misnomers that have acquired almost universal usage.

The first of the thirteen plates is a map of the distribution of the 'rookeries' of Manchots, Cormorants and Skuas to the west and north of Graham Land, which are mostly, in this district, on the small islands to the westward of Graham Land. The remaining twelve are made up of 43 half-tone reproductions of photographs taken at the bird rookeries, fifteen of which are from Charcot's "Le 'Français' au Pole Sud," from which many extracts are also given on the habits of the birds observed by the Expedition. These figures are all duly cited in the text, but the legends on the plates and in the 'Explication des planches' fail to indicate the species or the localities represented.—J. A. A.

**Reichenow on Sea-Birds.**—Dr. Reichenow's valuable memoir<sup>2</sup> consists of two parts, the first treating of the 'Vögel des Weltmeeres' (pp. 437-535), and the other the 'Vögel des Südpolargebiet's' (pp. 536-567). Here only the Sea-birds of the eastern hemisphere are considered, leaving for a future memoir those of the western hemisphere.

The first ten pages of the first part contain a general account of the distribution of the principal groups and prominent species, with a short list of papers and works relating to the subject. This is followed by a systema-

<sup>1</sup> Expédition Antarctique Française (1903-1905), commandée par le Dr. Jean Charcot. Sciences naturelles: Documents scientifiques. Oiseaux. Par A. Menegaux. 4to, pp. 1-79, pll. i-xiii. No date.

<sup>2</sup> Vögel des Weltmeeres | Die Meeresvögel der östlichen Erdhälfte | Von Ant. Reichenow | (Berlin) | Zeichnungen von G. Krause | Mit Tafel XLV-L | und 32 Abbildungen im Text — From 'Deutsche Südpolar-Expedition 1901-1903,' Bd. X. Zoologie, I, pp. 435-567, pll. xlv-l, 33 figures in text, and a South Polar chart.

tic review of the species, with keys to the higher groups, genera, and species, short descriptions of the latter, and brief indications of their breeding areas and winter ranges, the species treated numbering 144. On the accompanying map the ranges of various genera, and of some of the species, are graphically represented, as well as the boundaries of the three distribution areas briefly outlined in the text. The text illustrations and the five plates furnish characteristic representations of the greater part of the species mentioned in the text.

The second part deals especially, and in much greater detail, with the birds of the South Polar regions, 54 in number. The boundaries of the region considered are given on a map (p. 541), together with the northern limit of the south polar distribution zone, of the pack-ice, and of icebergs. There is also an important bibliography of the subject, with very full bibliographic references under each species, and the distribution of each species is treated in great detail. The work is thus an important contribution to the ornithology of the south polar regions, and a summary of present knowledge of the oceanic distribution of bird life.—J. A. A.

**Godman's 'Monograph of the Petrels.'** The second installment<sup>1</sup> of this important work concludes the genus *Cymodroma* and includes the genus *Puffinus*,—25 species in all, of which 20 are figured. In general character it of course conforms to Part I, already noticed, the history of each species being given at considerable length, and its relationships and nomenclature duly considered. The plates maintain the same high degree of excellence.

The following technical points may be here mentioned as of some interest. The genus *Cymodroma* Ridgway, 1884, is antedated by *Fregetta* Bonaparte, 1854, both with the same type by original designation. The only objection to *Fregetta* is that there is an earlier *Fregatta* (Lacépède, 1799), based on the Frigate Birds, but the names are too unlike to involve confusion.<sup>2</sup>

*Puffinus borealis* Cory is considered as not separable from *P. kuhli*, although American writers (perhaps mistakenly) regard them as specifically distinct. Hartert recognizes (Nov. Zool., II, 1905, 97) the form of *P. kuhli* from the Azores and Madeira as subspecifically different, under the name *Puffinus kuhli flavirostris* (Gould), but Dr. Godman says that after having examined the specimens in the Rothschild and British Museums he is "driven to the conclusion that a perfect gradation exists," and that he follows "Salvin in uniting the two races"; failing to recognize the fact that 'races,' or 'subspecies,' are expected to show intergradation. But it seems that Dr. Godman is one of the few ornithologists who are

<sup>1</sup> Part II, pages 59–152, plates xx–xxxix. March, 1908. For notice of Part I, see *antea*, p. 244.

<sup>2</sup> Cf. Coues, Auk, XIV, 1897, 315; A. O. U. Committee, Auk, XVI, 1899, 102; Sharpe, Hand-List of Birds, I, 1899, 122; Salvadori, Bull. Brit. Orn. Club, No. CXLII, April, 1908, 79, footnote; Richenow, Vogel des Weltmeeres, 1908.

still unable to see any advantage in the recognition of subspecies; and hence it may be here noted that in the present work the subspecies of modern authors are either wholly ignored in nomenclature or are given the rank of full species. Also that tautonymy is distasteful to the author of the 'Monograph of the Petrels,' and we have *Puffinus anglorum* as a substitute for the now almost universally accepted *Puffinus puffinus*; and, of course, consistently with this mental attitude, the beginning of binomial nomenclature in zoölogy is based on the 12th instead of the 10th edition of Linnæus's 'Systema Naturæ.'

*Puffinus auduboni* Finsch is preferred as the name of Audubon's Shearwater, on the ground that the earlier name *Puffinus lherminieri* Lesson rests on a diagnosis "too general in character." Yet *Puffinus bailloni* is tentatively accepted for the Madeiran Shearwater, although the original diagnosis is even less satisfactory, and there is also doubt as to whether the species really occurs at the type locality given for it by its author. Although Hartert has employed this name for the Madeiran species (as *P. obscurus bailloni*), he admits that possibly it should have a new designation, an opinion to which Godman unreservedly assents. The case thus seems so clear that we propose for this species the name *Puffinus godmani*, as a slight compliment to the distinguished author of the 'Monograph of the Petrels.'

While vernacular names are not subject to the same rules as technical names, it seems well to avoid their double employ as far as possible, and especially for such nearly related birds as those of the same genus. It was probably through oversight that in the present 'Monograph' the name Pink-footed Shearwater is used for both *Puffinus creatopus* (p. 101) and *P. carneipes* (p. 142).—J. A. A.

**Howard's 'The British Warblers,' Parts I and II.**<sup>1</sup>—This remarkable work is worthy of the highest praise, as regards both conception and execution. The numerous and beautiful plates are a fitting complement to the text, which together will mark an epoch in the history of this most interesting group of British birds. The account of each species is a detailed and elaborate monograph of its life history, with digressions, as expressed in the subtitle, on the "problems of their lives," based evidently on intimate first-hand knowledge of the bird in life. The treatment of these 'problems' is sane and rational in marked contrast with much that has of

<sup>1</sup> The British Warblers | A History with Problems | of | their Lives. By | H. Elliot Howard, F. Z. S., M. B. O. U. | Illustrated by Henrie Grönvold | London | R. H. Porter | 7 Princes Street, Cavendish Square, W.—Part I, February, 1907. Colored plate of eggs of British Warblers, 6 species, 34 figures; Sedge Warbler, pp. 1-14, 1 colored and 4 photogravure plates; Grasshopper Warbler, pp. 1-24, 2 colored and 6 photogravure plates. Two maps, geographical distribution of Grasshopper and Savi's Warblers. Part II, March, 1908. Chiff-chaff, pp. 1-31, 2 colored and 6 photogravure plates; Yellow-browed Warbler, pp. 1-3, 1 colored plate. Also colored plate each of Sedge Warblers (3 figures) and Grasshopper Warbler: 2 maps, geographical distribution of Sedge and Aquatic Warblers. Price, 21s net per part.

late been offered to the public as popular natural history. The colored plates and the photogravures are of a high grade of excellence, and the typography and general make-up of the work leave little ground for criticism.

The plan of treatment is as follows: (1) bibliographic references, restricted apparently to works which contain illustrations of the species under consideration; (2) vernacular names of the species, as known in the various countries comprised within its range; (3) description of the plumage, including its variations due to sex and age; (4) geographical distribution, with a map showing both summer and winter ranges; (4) life-history. The photogravure plates illustrate various attitudes of the bird assumed in courtship or in play, and also nestlings or young birds, and add greatly to the interest of the work. The account of the Grasshopper Warbler includes a long discussion of the theory of 'sexual selection,' for which his intimate studies of wild birds afford no support. He finds that the 'displays' of the male are by no means confined to the period of courtship. Under the Chiff-chaff the author discusses what he terms the "law of uniformity" in the behavior of birds, which "seems to extend to all the activities, whether referable to instinct or habit," but which does not prohibit variation in individual cases.—J. A. A.

---

#### NOTES AND NEWS.

LESLIE ALEXANDER LEE, an Associate of the American Ornithologists' Union, died at Portland, Maine, May 20, 1908, in the 56th year of his age. He was professor of biology and geology at Bowdoin College since 1881, and at the time of his death was president of the Maine Ornithological Society and of the Portland Society of Natural History. Professor Lee was born at Woodstock, Vermont, September 24, 1852. He was the son of John Stebbins Lee, the first president of St. Lawrence University, Canton, New York, from which the younger Lee was graduated in 1872. He took a post-graduate course at Harvard, and went to Bowdoin College as instructor in natural history in 1876. He was connected for a time with the United States Fish Commission, and was chief of the scientific staff of the 'Albatros' on a collecting voyage for the Smithsonian Institution through the Strait of Magellan and up the Pacific coast to San Francisco in 1887. In 1891 he organized and directed the Bowdoin College Expedition to Labrador. He was also, at the time of his death, State Geologist of Maine, and Chief of the Maine Topographical Survey Commission, which he organized. His numerous scientific papers relate mainly to marine biology. He was, however, deeply interested in ornithology, tak-

ing an active part in the work of the Maine Ornithological Society, which he served four years as president. His death is a great loss to the Society, and to the scientific interests of the State.

EDWARD AUGUSTUS SAMUELS, well-known as the author of an 'Ornithology and Oölogy of New England,' published originally in 1867, died at the home of his daughter, Mrs. John A. Barton, in Fitchburg, Massachusetts, May 27, 1908, at the age of nearly 72 years, he having been born in Boston, July 4, 1836, where the greater part of his life was spent. He was Assistant Secretary of the Massachusetts State Board of Agriculture and curator of the State collections of natural history from 1860 to 1880, and in 1885 was elected president of the Massachusetts Fish and Game Protective Association, which office he filled for seven years. His 'Ornithology and Oölogy of New England' passed through numerous editions, the title being changed in the fifth edition (1870) to 'The Birds of New England,' and though still printed from the original stereotype-plates, contained an Appendix of 70 pages of new matter. Although a compilation, the technical matter being taken from Baird's 'Birds of North America' (1858), and much other matter naturally from Wilson, Audubon, and Nuttall, it proved of great service as a popular work on the birds of the region treated, and for many years was the only one of its kind available. His 'Among the Birds,' a series of sketches for young folks, appeared in 1868, and was well adapted to interest young people in birds. He was also author of 'Mammalogy of New England,' 'With Fly-rod and Camera,' 'The Living World,' and other works of like character, and a frequent contributor to 'Forest and Stream,' and other journals devoted to natural history and field sports. An appreciative notice of Mr. Samuels, with a portrait, is given in 'Forest and Stream' for June 13, 1908.

IN APRIL last the A. O. U. Committee on Nomenclature and Classification of North American Birds held a four days' session in Washington, and took final action on practically all of the cases before it. Of the few still deferred, the greater part can doubtless be settled in time for inclusion in the new edition of the Check-List, which the Committee expects to have ready for the press in a few months. As the results of the Committee's work, not only during this session but for the past four years, are embodied in the Fourteenth Supplement to the Check-List, published in the present number of 'The Auk,' it is unnecessary to give further details here.

THE A. O. U. Revised Code of Nomenclature is now in press and will be issued next month. Many of the Canons have been more or less changed, usually by amplification without materially changing their purport or purpose; a few have been radically modified, chiefly by the adoption of the new 'Article 30' of the International Code of Zoölogical Nomenclature, which relates to the method of determining the types of genera. Copies

of the 'New Code' may be obtained on application to the Treasurer, Dr. Jonathan Dwight, Jr., 134 West 71st Street, New York City. Price, 50 cents.

MR. ROBERT RIDGWAY, whose departure for Costa Rica was announced in the last number of 'The Auk' (p. 248), returned in safety to this country about the middle of May. Although his visit was not as prolonged as originally intended, Mr. Ridgway succeeded, with the coöperation of his friends, in collecting over 900 birds, besides other material. His collecting stations were chiefly Escasú, at the base of the Cerro de la Candelaria; Guayabo, at the eastern base of the Volcan Turrialba; also at an altitude of over 9,000 feet on the volcano itself; and at Bonilla, east of Guayabo. Owing to the extreme dryness of the plateau districts of the interior, and of the western part of the country, several projected trips, notably one to Mount Turubales, were abandoned, there having been no rain since September of last year.

Mr. Ridgway attributes much of the success of his visit to the untiring efforts of his friend Mr. Zeledon, who outfitted a party in charge of Don Paco Basulto for a difficult journey into the Santa Maria de Dota and Cerro de la Muerte districts. This party started early in May, and the results of its explorations are expected to prove of great interest. It was Mr. Ridgway's intention to personally visit the Cerro de la Muerte region, but owing to the difficulties of travel he was obliged to forego it. Mr. Zeledon thereupon took steps to have collections made there, and a party was at once placed in the field.

After unpacking his Costa Rican spoils, Mr. Ridgway will resume work on the fifth part of his 'Birds of North and Middle America.' — C. W. R.

MR. FRANK M. CHAPMAN'S trip to southern Florida (see *antea*, p. 249) for material for additional bird groups for the American Museum of Natural History was eminently successful, material being obtained for the construction of large 'habitat groups' of several of the Egrets and Herons, the White Ibis, and the Roseate Spoonbill. On the way down he made a visit to the Indian River Pelican colony on Pelican Island and secured a large number of cinematograph, or 'moving,' pictures of the birds, and also many colored photographs of them and, later, of Herons and Spoonbills. A large series of further 'habitat groups' are now in process of construction at the Museum, some of which we hope to illustrate in a later number of this Journal.

FOURTEENTH SUPPLEMENT TO THE AMERICAN  
ORNITHOLOGISTS' UNION CHECK-LIST OF  
NORTH AMERICAN BIRDS.

THE Thirteenth Supplement to the Check-List was issued in July, 1904 (*Auk*, XXI, pp. 411-424).<sup>1</sup> Since this date the Committee has held six sessions, all except one in Washington, at the following dates: April 21-25, 1905; January 17-20, 1906; November 16-17, 1906; April 18-23, 1907; December 12, 1907 (at Philadelphia); April 15-20, 1908.

In view of the probable early appearance of a third edition of the Check-List, authorized by the Union at the Stated Meeting held in November, 1906, it seemed best to the Committee to withhold its reports from publication till the results of its work should appear in the new Check-List. Now that the manuscript for the new edition is practically completed, it seems desirable that the Committee should, in accordance with precedent, give reasons for the changes it has instituted during the last four years, since these cannot be readily indicated in the Check-List. Its decisions involve, as usual, additions to and eliminations from the Check-List, changes in nomenclature and in the status of groups, and the rejection of many proposed additions, and changes in nomenclature and status.

The Comitée has aimed to secure as stable a foundation as possible for the new Check-List, anticipating a few changes in names that would soon surely arise, as well as those already proposed. Nearly all of the nomenclature changes here recorded are due to the strict enforcement of the law of priority, and result from the recent bibliographic work of a large number of investigators, abroad as well as in America. As a result of the special interest and activity in this field, many previously little known or wholly overlooked early works have been discovered, and others have been scanned with greater care.

In this connection the Committee desires to recognize the important assistance it has had from its Secretary, Dr. Charles W.

<sup>1</sup> For date and place of publication of previous Supplements, see *Auk*, 1904, p. 411.

Richmond, who has placed freely at its disposal the results of years of bibliographic work made in connection with the preparation of an Index Catalogue to the generic and specific names of the birds of the world; some of these results are here for the first time published and are indicated as "RICHMOND, MS." The Committee also wishes to acknowledge its indebtedness to him for compiling and arranging the present Supplement for publication.

Covering as it does a long and prolific period, the present Supplement is necessarily voluminous, and in the interest of clearness of presentation has been divided into five categories, as follows: I, Additions; II, Eliminations; III, Changes in Nomenclature, including Changes in Status; IV, Proposed Additions and Changes not Accepted; V, Deferred Cases.

Great effort has been made during the last two meetings of the Committee to cover all the cases known to require consideration; as a result the list of 'deferred cases' has been reduced to a small number, and probably the greater part of these will be settled in time to be included in the new edition of the Check-List.

The geographic ranges of the recently added species and subspecies have been omitted in the present Supplement, as a general revision of the ranges of all of the species and subspecies is now being made for the new edition of the Check-List.

Committee.	{	J. A. ALLEN, <i>Chairman</i> .
		CHARLES W. RICHMOND, <i>Secretary</i> .
		WILLIAM BREWSTER.
		JONATHAN DWIGHT, JR.
		C. HART MERRIAM.
		ROBERT RIDGWAY.
	{	WITMER STONE.

1. ADDITIONS TO THE CHECK-LIST.

SUBGENUS **BRACHYRAMPHUS**. To be inserted before Nos. 23 and 24.

SUBGENUS **ENDOMYCHURA** OBERHOLSER.

*Endomychura* OBERHOLSER, Proc. Acad. Nat. Sci. Phila., 1899, 201. Type, *Brachyramphus hypoleucus* XANTUS.

Admitted as a subgenus, to include Nos. 25 and 26.

75a. *Sterna fuscata crissalis* (LAWRENCE).

Crissal Sooty Tern.

*Haliplana fuliginosa* var. *crissalis* LAWRENCE, Proc. Bost. Soc. Nat. Hist., XIV, 1872, 285. (Cf. COUES, Key, ed. 5, II, 1903, 1016.)

Two subgenera are introduced under *Diomedea*, as follows:

SUBGENUS **PHŒBASTRIA** REICHENBACH.

*Phœbastria* REICHENBACH, Syst. Avium, 1852, v. Type, *Diomedea brachyura* TEMMINCK = *D. albatrus* PALLAS. (Cf. COUES, Osprey, III, 1899, 144.) This includes Nos. 81, 82, and 82.1.

SUBGENUS **DIOMEDEA**. Includes *D. exulans*, of the Hypothetical List.

SUBGENUS **OCEANODROMA**. This is introduced before No. 105, to include *O. furcata*, while the remaining species of the List are included in the

SUBGENUS **CYMOCHOREA** COUES.

*Cymochorea* COUES, Proc. Acad. Nat. Sci. Phila., 1864, 75. Type, *Procellaria leucorhoa* VIEILLOT. (Cf. COUES, Osprey, III, 1899, 144.)

SUBGENUS **ARISTONETTA** BAIRD.

*Aristonetta* BAIRD, Reports Expl. & Surv. R. R. Pac., IX, 1858, 793. Type, *Anas vallisneria* WILSON.

This is admitted to include No. 147.

171.2. **Anser brachyrhynchus** BAILLON.**Pink-footed Goose.**

*Anser brachyrhynchus* BAILLON, Mém. Soc. Imp. d'Émul. d'Abbeville, 1833, 74.

. Admitted on the basis of its occurrence in Greenland. (Cf. SCHALOW, Vögel Arktis, 1904, 176.)

210.1. **Rallus levipes** BANGS.**Light-footed Rail.**

*Rallus levipes* BANGS, Proc. N. Engl. Zool. Club, I, 1899, 45.

GENUS **RHYACOPHILUS** KAUP.

*Rhyacophilus* KAUP, Skizz. Entw.-Gesch. Eur. Thierw., I, 1829, 140. Type, *Tringa glareola* LINNÆUS.

257.1. **Rhyacophilus glareola** (LINNÆUS).**Wood Sandpiper.**

*Tringa glareola* LINNÆUS, Syst. Nat. ed. 10, I, 1758, 149.

Admitted to the List on the strength of its occurrence in Alaska. (Cf. LITTLEJOHN, Condor, VI, 1904, 138.)

304a. **Lagopus leucurus peninsularis** CHAPMAN.**Kenai White-tailed Ptarmigan.**

*Lagopus leucurus peninsularis* CHAPMAN, Bull. Am. Mus. N. H., XVI, 1902, 236.

(No. 304a of the 10th Supplement is eliminated, as equivalent to No. 304.)

SUBGENUS **BUTEO**. This should be introduced above No. 337.

356. **Falco peregrinus** TUNSTALL.

**Peregrine Falcon.**

*Falco peregrinus* TUNSTALL, Orn. Britannica, 1771, 1.

Admitted on the basis of its occurrence in Greenland. (Cf. SCHALOW, *Vögel Arktis*, 1904, 225.) The present Nos. 356 and 356a of the Check-List thus become 356a and 356b.

360c. **Falco sparverius paulus** (HOWE & KING).

**Little Sparrow Hawk.**

*Cerchneis sparverius paulus* HOWE & KING, Contrib. N. A. Orn., I, 1902, 28.

The small resident form of Florida.

375f. **Bubo virginianus heterocnemis** (OBERHOLSER).

**Labrador Horned Owl.**

*Asio magellanicus heterocnemis* OBERHOLSER, Proc. U. S. Nat. Mus., XXVII, 1904, 187.

375g. **Bubo virginianus algistus** (OBERHOLSER).

**St. Michael Horned Owl.**

*Asio magellanicus algistus* OBERHOLSER, Proc. U. S. Nat. Mus., XXVII, 1904, 190.

420d. **Chordeiles virginianus hesperis** J. GRINNELL.

**Pacific Nighthawk.**

*Chordeiles virginianus hesperis* J. GRINNELL, Condor, VII, 1905, 170.

GENUS **ATTHIS** REICHENBACH.

*Atthis* REICHENBACH, Journ. f. Orn., 1853, Extra-Heft, 1854 (Aufz. der Colib.), 12. Type, *Ornismya heloisa* LESSON & DELATTRE.

This reference was accidentally omitted from the Ninth Supplement.

GENUS **URANOMITRA** REICHENBACH.

*Uranomitra* REICHENBACH, Journ. f. Orn., 1853, Extra-Heft, 1854 (Aufz. der Colib.), 10. Type, *Trochilus franciæ* BOURCIER & Mulsant.

439.1. ***Uranomitra salvini*** (BREWSTER).

Salvin's Hummingbird.

*Cyanomyia salvini* BREWSTER, Auk, X, July, 1893, 214.

Admitted to the List by reason of its occurrence in Arizona. (Cf. BISHOP, Auk, XXIII, 1906, 337, 338.)

478e. ***Cyanocitta stelleri carbonacea*** J. GRINNELL.

Coast Jay.

*Cyanocitta stelleri carbonacea* J. GRINNELL, Condor, II, 1900, 127.

488b. ***Corvus brachyrhynchos hesperis*** (RIDGWAY).

Western Crow.

*Corvus americanus hesperis* RIDGWAY, Manual N. A. Birds, 1887, 362.

490.1. ***Corvus frugilegus*** LINNÆUS.

Rock.

*Corvus frugilegus* LINNÆUS, Syst. Nat., ed. 10, I, 1758, 105.

490.2. ***Corvus cornix*** LINNÆUS.

Hooded Crow.

*Corvus cornix* LINNÆUS, Syst. Nat., ed. 10, I, 1758, 105.

Nos. 490.1 and 490.2 are admitted by reason of their occurrence in Greenland. (Cf. SCHALOW, Vögel Arktis, 1904, 242, 243.)

574.1b. ***Amphispiza nevadensis canescens* (J. GRINNELL).**

**California Sage Sparrow.**

*Amphispiza belli canescens* J. GRINNELL, Condor, VII, 1905,  
18.

581p. ***Melospiza melodia cleonensis* MCGREGOR.**

**Mendocino Song Sparrow.**

*Melospiza melodia cleonensis* MCGREGOR, Bull. Cooper Orn.  
Club, I, 1899, 87.

585e. ***Passerella iliaca fuliginosa* RIDGWAY.**

**Sooty Fox Sparrow.**

*Passerella iliaca fuliginosa* RIDGWAY, Auk, XVI, 1899, 36.

585f. ***Passerella iliaca insularis* RIDGWAY.**

**Kadiak Fox Sparrow.**

*Passerella iliaca insularis* RIDGWAY, Auk, XVII, 1900, 30.

585g. ***Passerella iliaca townsendi* (AUDUBON).**

**Townsend's Sparrow.**

*Plectrophanes townsendi* AUDUBON, Birds Amer., IV, 1838,  
pl. 424, fig. 7. (Folio edition.)

611.2. ***Progne chalybea* (GMELIN).**

**Gray-breasted Martin.**

*Hirundo chalybea* GMELIN, Syst. Nat., I, ii, 1788, 1026.

Admitted to the List on the strength of its occurrence in Texas.  
(Cf. MILLER, Auk, XXIII, 1906, 226.)

613.1. ***Hirundo rustica* LINNÆUS.**

**Swallow.**

*Hirundo rustica* LINNÆUS, Syst. Nat., ed. 10, I, 1758, 191.

GENUS **CHELIDONARIA** REICHENOW.

*Chelidonaria* REICHENOW, Journ. f. Orn., 1889, 187. Type,  
*Hirundo urbica* LINNÆUS.

615.2. **Chelidonaria urbica** (LINNÆUS).**Martin.**

*Hirundo urbica* LINNÆUS, Syst. Nat., ed. 10, I, 1758, 192.

This and the preceding are introduced as visitants to Greenland.  
(Cf. SCHALOW, Vögel Arktis, 1904, 258.)

632d. **Vireo huttoni cognatus** RIDGWAY.**Frazar's Vireo.**

*Vireo huttoni cognatus* RIDGWAY, Proc. Biol. Soc. Wash.,  
XVI, 1903, 107.

633b. **Vireo bellii medius** OBERHOLSER.**Texas Vireo.**

*Vireo bellii medius* OBERHOLSER, Proc. Biol. Soc. Wash., XVI,  
1903, 17.

652c. **Dendroica æstiva brewsteri** J. GRINNELL.**California Yellow Warbler.**

*Dendroica æstiva brewsteri* J. GRINNELL, Condor, V, 1903, 72.

715a. **Salpinctes obsoletus pulverius** J. GRINNELL.**San Nicolas Rock Wren.**

*Salpinctes obsoletus pulverius* J. GRINNELL, Auk, XV, 1898,  
238. (Cf. RIDGWAY, Bull. U. S. Nat. Mus., No. 50, Pt.  
III, 1904, 649.)

732a. **Bæolophus atricristatus sennetti** RIDGWAY.**Sennett's Titmouse.**

*Bæolophus atricristatus sennetti* RIDGWAY, Bull. U. S. Nat.  
Mus., No. 50, Pt. III, 1904, 386. (Cf. ALLEN, Bull. Am.  
Mus. N. H., XXIII, 1907, 467-481.)

736b. *Penthestes carolinensis impiger* (BANGS).

*Florida Chickadee.*

*Parus carolinensis impiger* BANGS, Proc. N. Engl. Zool. Club,  
IV, 1903, 1. (Cf. RIDGWAY, Bull. U. S. Nat. Mus., No. 50,  
Pt. III, 1904, 406.)

738a. *Penthestes gambeli baileyæ* (J. GRINNELL).

*Bailey's Mountain Chickadee.*

*Parus gambeli baileyæ* J. GRINNELL, Condor, X, 1908, 29.

740a. *Penthestes hudsonicus littoralis* (H. BRYANT).

*Acadian Chickadee.*

*Parus hudsonicus*, var. *littoralis* H. BRYANT, Proc. Bost. Soc.  
N. H., IX, 1865, 368. (Cf. CHAPMAN, Bull. Am. Mus.  
N. H., XVI, 1902, 245; RIDGWAY, Bull. U. S. Nat. Mus.,  
No. 50, Pt. III, 1904, 415.)

742c. *Chamæa fasciata rufula* RIDGWAY.

*Ruddy Wren-Tit.*

*Chamæa fasciata rufula* RIDGWAY, Proc. Biol. Soc. Wash.,  
XVI, 1903, 109.

759d. *Hylocichla guttata slevini* (J. GRINNELL).

*Monterey Hermit Thrush.*

*Hylocichla aonalaschkæ slevini* J. GRINNELL, Auk, XVIII,  
1901, 258.

759e. *Hylocichla guttata sequoiensis* (BELDING).

*Sierra Hermit Thrush.*

*Turdus sequoiensis* BELDING, Proc. Calif. Acad. Sci., Ser. 2,  
II, 1889, 18. (Cf. RIDGWAY, Bull. U. S. Nat. Mus., No.  
50, Pt. IV, 1907, 44.)

## II. ELIMINATIONS.

- 1 (Hypothetical List). *Æchmophorus clarkii* (LAWRENCE). A synonym of *Æ. occidentalis*.
- 3 (Hypothetical List). *Cepphus carbo* PALLAS. Not North American.
- 42.1. *Larus barrovianus* RIDGWAY. Equivalent to *L. glaucus* (= *L. hyperboreus*). (Cf. DWIGHT, Auk, XXIII, 1906, 29.)
94. *Puffinus fuliginosus* STRICKLAND. Equivalent to *P. griseus* (GMELIN). (Cf. SALVIN, Cat. Birds Brit. Mus., XXV, 1896, 386.)
- SUBGENUS **SULA** and SUBGENUS **DYSPORUS** are to be removed.
- 7 (Hypothetical List). *Phalacrocorax perspicillatus* PALLAS. No evidence of its occurrence in North America.
- 133a. *Anas obscura rubripes* BREWSTER. Equivalent to No. 133. (See No. 133, under 'Changes of Nomenclature.')
173. *Branta bernicla* (LINNÆUS). Not North American, its place in the List being filled by No. 173a.
- 9 (Hypothetical List). *Ardea wuerdemanni* BAIRD. Removed from the List as being in all probability a hybrid between *A. occidentalis* and *A. wardi*.
- 10 (Hypothetical List). *Ardea* (*Dichromanassa*) *pealei* BONAPARTE. This is eliminated as a color phase of *Dichromanassa rufescens*.
- 277a. *Ægialitis meloda circumcincta* RIDGWAY. Equivalent to No. 277. (Cf. SHARPE, Cat. Birds Brit. Mus., XXIV, 1896, 294.)
- 304a. *Lagopus leucurus altipetens* OSGOOD. Not separable from No. 304.

13 (Hypothetical List). **Cathartes burrovianus** CASSIN. The claims of this alleged species as an inhabitant of Texas are considered too unsatisfactory for its continuance in the List; moreover, according to Nelson, *C. burrovianus* is equivalent to *C. aura* (cf. Proc. Biol. Soc. Wash., XVIII, 1905, 122-125).

[336.] **Buteo buteo** (LINNÆUS).

[347.] **Archibuteo lagopus** (BRÜNNICH). It is now believed the introduction of these species into the List was unwarranted, and based on faulty records.

16.2 (Hypothetical List). **Trochilus violajugulum** JEFFRIES. Removed as being a hybrid. (Cf. THAYER & BANGS, Auk, XXIV, 1907, 313.)

431.1 **Selasphorus floresii** GOULD. Eliminated, as the Check-List record was based on a hybrid. (Cf. THAYER & BANGS, Auk, XXIV, 1907, 313.)

[450.] **Myiozetetes similis superciliosus** (BONAPARTE).

[455.] **Myiarchus lawrencei** (GIRAUD). These two species are removed, as based exclusively upon Giraud's unconfirmed "Texas" records.

464.2. **Empidonax insulicola** OBERHOLSER. Not satisfactorily differentiated from *E. difficilis*. (Cf. RIDGWAY, Bull. U. S. Nat. Mus., No. 50, Pt. IV, 1907, 579.)

[470.] **Empidonax fulvifrons** (GIRAUD). Eliminated, as based exclusively upon Giraud's unconfirmed "Texas" record.

472a. **Ornithion imberbe ridgwayi** BREWSTER. Proves to be inseparable from No. 472. (Cf. RIDGWAY, Bull. U. S. Nat. Mus., No. 50, Pt. IV, 1907, 416.)

#### GENUS **EUPHONIA** DESMAREST.

[606.] **Euphonia elegantissima** (BONAPARTE). Removed, as based wholly upon Giraud's unconfirmed "Texas" record.

SUBFAMILY **AMPELINÆ**. To be removed, as serving no purpose since the elevation of the "SUBFAMILY **Ptilogonatinæ**" to family rank.

GENUS **HYLOPHILUS** TEMMINCK.

- 19 (Hypothetical List). **Hylophilus decurtatus** (BONAPARTE). Eliminated, as based exclusively upon Giraud's "Texas" record.
- 20 (Hypothetical List). **Helminthophila lawrencii** (HERRICK).
- 21 (Hypothetical List). **Helminthophila leucobronchialis** (BREWSTER).
- 22 (Hypothetical List). **Helminthophila cincinnatiensis** (LANGDON). These are eliminated as probable hybrids. (Cf. RIDGWAY, Bull. U. S. Nat. Mus., No. 50, Pt. II, 1902, 446, 452-455.)
- 681d. **Geothlypis trichas brachidactyla** (SWAINSON). Believed to be too near *G. trichas* for recognition by name.
- [689.] **Setophaga miniata** SWAINSON.

GENUS **ERGATICUS** BAIRD.

- [691.] **Ergaticus ruber** (SWAINSON).

GENUS **BASILEUTERUS** CABANIS.

- [692.] **Basileuterus culicivorus brasherii** (GIRAUD).
- [693.] **Basileuterus belli** (GIRAUD).

Nos. [689] and [691] to [693], including the genera *Ergaticus* and *Basileuterus*, are to be expunged from the List, as based exclusively upon Giraud's unconfirmed "Texas" records.

- 710a. **Toxostoma redivivum pasadenense** (GRINNELL). This proves to be indistinguishable from No. 710. (Cf. RIDGWAY, Bull. U. S. Nat. Mus., No. 50, Pt. IV, 1907, 205.)

- 721b. *Troglodytes ædon aztecus* BAIRD. Eliminated, as being inseparable from *T. a. parkmanii*. (Cf. RIDGWAY, Bull. U. S. Nat. Mus., No. 50, Pt. III, 1904, 582.)
- 731a. *Bæolophus bicolor texensis* (SENNETT). Cancelled, as being a hybrid. (Cf. RIDGWAY, Bull. U. S. Nat. Mus., No. 50, Pt. III, 1904, 386; ALLEN, Bull. Am. Mus. N. H., XXIII, 1907, 467-481.)
- 733c. *Bæolophus inornatus restrictus* RIDGWAY. Eliminated, as having been based upon soot-stained examples of *B. inornatus* from the vicinity of San Francisco. (Cf. GRINNELL, Auk, XXIII, 1906, 186.)
- 740a. *Parus hudsonicus stoneyi* (RIDGWAY).
- 740b. *Parus hudsonicus columbianus* RHOADS. These are to be expunged from the List, as indistinguishable from No. 740.
- 758b. *Hylocichla ustulata œdica* OBERHOLSER.
- 758c. *Hylocichla ustulata almæ* OBERHOLSER. Both to be eliminated, *œdica* being inseparable from *ustulata*, while *almæ* becomes a synonym of *swainsoni*. (Cf. RIDGWAY, Bull. U. S. Nat. Mus., No. 50, Pt. IV, 1907, 52, 55.)

### III. CHANGES IN NOMENCLATURE, INCLUDING CHANGES IN STATUS.

SUBORDER **PODICIPEDES**. This becomes

SUBORDER **COLYMBI**.

FAMILY **PODICIPIDÆ**. This is changed to

FAMILY **COLYMBIDÆ**.

SUBGENUS **PODICEPS** LATHAM. Replaced by

SUBGENUS **TACHYBAPTUS** REICHENBACH.

*Tachybaptus* REICHENBACH, Avium Syst. Nat., 1849, pl. ii.  
Type, *Colymbus minor* GMELIN = *C. ruficollis* PALLAS. (Cf. STONE, Auk, 1907, 190; ALLEN, Bull. Am. Mus. N. H., XXIV, 1908, 24.)

7. **Gavia imber** (GUNNERUS). Gunnerus is found to be not strictly binomial at 1761, and the authority for this name (with slight alteration in the spelling) is changed to

7. **Gavia immer** (BRÜNNICH).

*Colymbus immer* BRÜNNICH, Orn. Borealis, 1764, 38.

11. **Gavia lumme** (GUNNERUS). As this author is not acceptable at 1761, this species becomes

11. **Gavia stellata** (PONTOPPIDAN).

*Colymbus stellatus* PONTOPPIDAN, Danske Atlas, I, 1763, 621.  
(Based on *Colymbus maximus stellatus* of Willughby, which Lönnerberg identifies as *Colymbus lumme* BRÜNNICH = *Colymbus stellatus* of the same author; cf. LÖNNBERG, Orn. Monatsb., 1907, 76.) (RICHMOND, MS.)

SUBFAMILY **PHALERINÆ** of the Check-List, becomes

SUBFAMILY **ÆTHIINÆ**.

GENUS **CYCLORRHYNCHUS** KAUP. This becomes

GENUS **PHALERIS** TEMMINCK.

*Phaleris* TEMMINCK, Man. d'Orn., ed. 2, I, 1820, cxii. Type, *Alca psittacula* PALLAS. (Cf. ALLEN, Bull. Am. Mus. N. H., XXIV, 1908, 37.)

17. **Cyclorhynchus psittaculus** (PALLAS). This becomes  
17. **Phaleris psittacula** (PALLAS).

GENUS **SIMORHYNCHUS** MERREM. An earlier name is found in

GENUS **ÆTHIA** DUMONT.

*Æthia* DUMONT, Dict. Sci. Nat. (revised ed.), I, 1816, Suppl.,

71. Type, *Alca cristatella* PALLAS. (Cf. STONE, Auk, 1907, 190.)

Nos. 18, 19, and 20 thus become

18. *Æthia cristatella* (PALLAS).

19. *Æthia pygmæa* (GMELIN).

20. *Æthia pusilla* (PALLAS).

By reason of the adoption of *Phaleris* in place of *Cyclorhynchus*, the subgenus **Phaleris** of the Check-List becomes

SUBGENUS **ALCELLA** STONE.

*Alcella* STONE, Auk, XXIV, 1907, 197. Type, *Alca pygmæa* GMELIN. (Cf. STONE, Auk, 1907, 197; ALLEN, Bull. Am. Mus. N. H., XXIII, 1907, 292; XXIV, 1908, 15.)

24. *Brachyramphus kittlitzii* BRANDT. This becomes

24. *Brachyramphus brevirostris* (VIGORS).

*Uria brevirostris* VIGORS, Zool. Journal, IV, 1829, 357. (Cf. GRANT, Cat. Birds Brit. Mus., XXVI, 1898, 593.)

42. *Larus glaucus* BRÜNNICH. This is antedated by *Larus glaucus* PONTOPPIDAN, 1763, based on Brisson, Orn., VI, 1760, 182, pl. 16, fig. 2, which = *Larus canus* LINNÆUS, 1758. The next name for the Glaucous Gull appears to be

42. *Larus hyperboreus* GUNNERUS.

*Larus hyperboreus* GUNNERUS, in LEEM, Beskr. Finm. Lapper, 1767, 226 (note). (RICHMOND, MS.)

51. *Larus argentatus* BRÜNNICH. The authority is changed to

51. *Larus argentatus* PONTOPPIDAN.

*Larus argentatus* PONTOPPIDAN, Danske Atlas, I, 1763, 622. (RICHMOND, MS.)

[56.] *Larus canus* LINNÆUS. This becomes No. 3.1 of the Hypothetical List.

75. *Sterna fuliginosa* GMELIN. This becomes

75. *Sterna fuscata* LINNÆUS.

*Sterna fuscata* LINNÆUS, Syst. Nat., ed. 12, I, 1766, 228. (Cf. BUREAU, Bull. Soc. Sci. Nat. Ouest France, XIV, 1904, 229-233.)

84. *Phœbetria fuliginosa* (GMELIN). An earlier name is

84. *Phœbetria palpebrata* (J. R. FORSTER).

*Diomedea palpebrata* FORSTER, Mém. pres. Acad. Roy. Sci., X, 1785, 571, pl. xv. (RICHMOND, MS.)

GENUS **OSSIFRAGA** HOMBRON & JACQUINOT. This is changed to

GENUS **MACRONECTES** RICHMOND.

*Macronectes* RICHMOND, Proc. Biol. Soc. Wash., XVIII, 1905, 76. Type, *Procellaria gigantea* GMELIN. *Ossifraga* HOMBRON & JACQUINOT, 1844, proves to be preoccupied by *Ossifraga* WOOD, 1835.

No. [85] of the Check-List thus becomes

[85.] *Macronectes giganteus* (GMELIN).

GENUS **PROCELLARIA** LINNÆUS. This becomes

GENUS **THALASSIDROMA** VIGORS.

*Thalassidroma* VIGORS, Zool. Journal, II, 1825, 405 (note). Type, *Procellaria pelagica* LINNÆUS. (Cf. ALLEN, Bull. Am. Mus. N. H., XXIV, 1908, 11, 25.)

No. 104 of the Check-List thus becomes

104. *Thalassidroma pelagica* (LINNÆUS).

[106.2.] *Oceanodroma cryptoleucura* (RIDGWAY). This is changed to

[106.2.] *Oceanodroma castro* (HARCOURT).

*Thalassidroma castro* HARCOURT, Sketch of Madeira, 1851, 123.  
(Cf. DUBOIS, Syn. Avium, II, 1903, 1029; GRANT, Ibis, 1898, 314.)

GENUS *SULA* BRISSON. The type should be changed to *Pelecanus piscator* LINNÆUS. (Cf. ALLEN, Bull. Am. Mus. N. H., XXIV, 1908, 28.)

115. *Sula sula* (LINNÆUS). This is changed to

115. *Sula leucogastra* (BODDAERT).

*Pelecanus leucogaster* BODDAERT, Table Pl. Enl., 1783, 57.  
*Pelecanus sula* LINNÆUS, 1766, proves not to be the species usually recognized under this name, but a synonym of *P. piscator*. (Cf. NELSON, Proc. Biol. Soc. Wash., XVIII, 1905, 121.)

120. *Phalacrocorax dilophus* (SWAINSON). This becomes

120. *Phalacrocorax auritus* (LESSON).

*Carbo auritus* LESSON, Traité d'Orn., 1831, 605.

The name *dilophus*, having been applied by Vieillot in 1817, to a New Zealand species, is not available for the Double-crested Cormorant. (Cf. GRANT, Cat. Birds Brit. Mus., XXVI, 1898, 355, 370.)

Nos. 120a, 120b, and 120c require correction as follows:

120a. *Phalacrocorax auritus floridanus* (AUDUBON).

120b. *Phalacrocorax auritus cincinatus* (BRANDT).

120c. *Phalacrocorax auritus albociliatus* (RIDGWAY).

121. *Phalacrocorax mexicanus* (BRANDT). This becomes a subspecies of *P. vigua* (VIEILLOT). (Cf. GRANT, Cat. Birds Brit. Mus., XXVI, 1898, 381.)

121. *Phalacrocorax vigua mexicanus* (BRANDT).

GENUS **FREGATA** BRISSON. Authority changed to

GENUS **FREGATA** LACÉPÈDE.

*Fregata* LACÉPÈDE, Tabl. Ois., 1799, 15. Type, *Pelecanus aquilus* LINNÆUS.

*Fregata* proves not to have been used in a generic sense by Brisson. (Cf. STONE, Auk, XXIV, 1907, 195; ALLEN, Bull. Am. Mus. N. H., XXIII, 1907, 301; XXIV, 1908, 18.)

GENUS **MERGANSER** BRISSON. This becomes

GENUS **MERGUS** LINNÆUS.

*Mergus* LINNÆUS, Syst. Nat., ed. 10, I, 1758, 129. Type, *Mergus merganser* LINNÆUS. (Cf. ALLEN, Bull. Am. Mus. N. H., XXIV, 1908, 36.)

Nos. 129 and 130 will therefore stand as

129. **Mergus americanus** CASSIN.

130. **Mergus serrator** LINNÆUS.

GENUS **MERGUS** LINNÆUS, for No. [131.1], becomes

GENUS **MERGELLUS** SELBY.

*Mergellus* SELBY, Cat. Gen. and Subgen. Types of Birds, 1840, 47. Type, *Mergus albellus* LINNÆUS. (Cf. ALLEN, Bull. Am. Mus. N. H., XXIV, 1908, 20.)

This necessitates a change of name in No. [131.1] to

[131.1] **Mergellus albellus** (LINNÆUS).

132. **Anas boschas** LINNÆUS. This becomes, by reason of anteriority,

132. **Anas platyrhynchos** LINNÆUS.

*Anas platyrhynchos* LINNÆUS, Syst. Nat., ed. 10, I, 1758, 125. (Cf. LÖNNBERG, Journ. f. Orn., 1906, 528.)

133. *Anas obscura* GMELIN. This is changed to

133. *Anas rubripes* (BREWSTER).

*Anas obscura rubripes* BREWSTER, Auk, XIX, 1902, 184.

The name *Anas obscura* GMELIN, 1788, proves to be preoccupied by *Anas obscura* PONTOPPIDAN, 1763, for an Old World species, and no other name being available, *rubripes* of Brewster is adopted as a substitute. (RICHMOND, MS.) There is some question as to the validity of the form recognized as No. 133a, which, by the above action, is now cancelled. (See Eliminations.)

GENUS **QUERQUEDULA** STEPHENS. Authority is changed to

GENUS **QUERQUEDULA** OKEN.

*Querquedula* OKEN, Isis, I, 1817, 1183, Type, *Anas circia* LINNÆUS = *A. querquedula* LINNÆUS.

[141.1.] *Casarca casarca* (LINNÆUS). This becomes

[141.1.] *Casarca ferruginea* (PALLAS).

*Anas ferruginea* PALLAS, in VROEG'S Cat., 1764, Adumbr., 5.  
(Cf. RICHMOND, Smiths. Misc. Coll., Quarterly Issue, XLVII, 1905, 346.)

GENUS **AYTHYA** BOIE. This becomes

GENUS **MARILA** OKEN.

*Marila* OKEN, Isis, I, 1817, 1183. Type, *Anas marila* LINNÆUS. (Cf. STONE, Auk, XXIV, 1907, 191; also ALLEN, Bull. Am. Mus. N. H., XXIV, 1908, 26.)

*Aythya* BOIE, 1822, is preoccupied by *Aethia* (or *Aethya*) DUMONT, 1816; moreover, its priority over *Nyroca* FLEMING, 1822, has never been satisfactorily demonstrated.

SUBGENUS **FULIGULA** STEPHENS, becomes

SUBGENUS **MARILA** OKEN.

Nos. 146 to 150 require change as follows:

- 146. **Marila americana** (EYTON).
- 147. **Marila vallisneria** (WILSON).
- 148. **Marila marila** (LINNÆUS).
- 149. **Marila affinis** (EYTON).
- 150. **Marila collaris** (DONOVAN).

GENUS **CLANGULA** LEACH, 1819. Authority becomes, by reason of priority,

GENUS **CLANGULA** OKEN.

*Clangula* OKEN, Isis, I, 1817, 1183. Type, *Anas clangula* LINNÆUS. (Cf. STONE, Auk, XXIV, 1907, 191.)

GENUS **CAMPTOLAIMUS** GRAY. This becomes

GENUS **CAMPTORHYNCHUS** BONAPARTE.

*Camptorhynchus* BONAPARTE, Geog. & Comp. List, April, 1838, 58. Type, *Anas labradoria* GMELIN. (Cf. STONE, Auk, XXIV, 1907, 191; ALLEN, Bull. Am. Mus. N. H., XXIV, 1908, 20.)

The name *Camptorhynchus* was first published by Bonaparte, whose work has priority over Eyton's 'Monograph of the Anatidæ' (where the name appears as *Kamptorhynchus*).

No. 156 thus becomes

- 156. **Camptorhynchus labradorius** (GMELIN).
- 178. **Dendrocygna fulva** (GMELIN). This becomes
- 178. **Dendrocygna bicolor** (VIEILLOT).

*Anas bicolor* VIEILLOT, Nouv. Dict. Hist. Nat., V, 1816, 136.

*Anas fulva* GMELIN, 1788, proves to be preoccupied by *Anas fulva* MEUSCHEN, 1787. (RICHMOND, MS.)

The following changes are made in the Family Ciconiidae:

SUBFAMILY **TANTALINÆ**, becomes

SUBFAMILY **MYCTERIINÆ**. Wood Ibises.

GENUS **TANTALUS** LINNÆUS, becomes

GENUS **MYCTERIA** LINNÆUS.

*Mycteria* LINNÆUS, Syst. Nat., ed. 10, I, 1758, 140. Type,  
*Mycteria americana* LINNÆUS.

188. *Tantalus loculator* LINNÆUS, becomes

188. *Mycteria americana* LINNÆUS.

Wood Ibis.

*Mycteria americana* LINNÆUS, Syst. Nat., ed. 10, I, 1758, 140.

GENUS **MYCTERIA**, of the Check-List, becomes

GENUS **JABIRU** HELLMAYR.

*Jabiru* HELLMAYR, Abh. K. Bayer. Akad. Wiss., II Kl., XXII,  
1906, 711. Type, *Ciconia mycteria* LICHTENSTEIN.

[189.] *Mycteria americana* LINNÆUS, becomes

[189.] *Jabiru mycteria* (LICHTENSTEIN).

*Jabiru*.

*Ciconia mycteria* LICHTENSTEIN, Abh. K. Akad. Wiss. Berlin  
(Phys. Kl.), for 1816-17, 1819, 163.

The reasons for the above changes are fully explained by ALLEN,  
Auk, XXV, 1908, 37, 38.

GENUS **BOTAURUS** HERMANN. Authority is changed to

GENUS **BOTAURUS** STEPHENS.

*Botaurus* STEPHENS, in SHAW, Gen. Zool., XI, ii, 1819, 592.  
Type, *Ardea stellaris* LINNÆUS.

Hermann is considered not to have used the term in a generic sense. (Cf. STONE, Auk, XXIV, 1907, 195; ALLEN, Bull. Am. Mus. N. H., XXIII, 1907, 311.)

GENUS **ARDETTA** GRAY. This becomes

GENUS **IXOBRYCHUS** BILLBERG.

*Ixobrychus* BILLBERG, Syn. Faunæ Scand., I, ii, 1828, 166.

Type, *Ardea minuta* LINNÆUS. (Cf. STONE, Auk, XXIV, 1907, 192; ALLEN, Bull. Am. Mus. N. H., XXIV, 1908, 36.)

Nos. 191 and 191.1 of the Check-List thus become

191. ***Ixobrychus exilis*** (GMELIN).

191.1 ***Ixobrychus neoxenus*** (CORY).

GENUS **NYCTICORAX** STEPHENS. Authority is changed to

GENUS **NYCTICORAX** T. FORSTER.

*Nycticorax* FORSTER, Synop. Cat. Brit. Birds, 1817, 59.

Type, *Nycticorax infaustus* FORSTER = *Ardea nycticorax* LINNÆUS. (Cf. STONE, Auk, XXIV, 1907, 195.)

207. ***Aramus giganteus*** (BONAPARTE). An earlier name is found in

207. ***Aramus vociferus*** (LATHAM).

*Numenius vociferus* LATHAM, Suppl. Ind. Orn., 1801, lxx.  
(RICHMOND, MS.)

SUBGENUS **COTURNICOPS** BONAPARTE. Becomes

GENUS **COTURNICOPS** BONAPARTE.

*Coturnicops* BONAPARTE, Compt. Rend., XLIII, 1856, 599.

Type, *Fulica noveboracensis* GMELIN.

No. 215 thus becomes

215. ***Coturnicops noveboracensis*** (GMELIN).

SUBGENUS **CRECISCUS** CABANIS. This becomes

GENUS **CRECISCUS** CABANIS.

*Creciscus* CABANIS, Journ. f. Orn., 1856, 428. Type, *Rallus jamaicensis* GMELIN.

216. *Porzana jamaicensis* (GMELIN). This becomes

216. *Creciscus jamaicensis* (GMELIN).

No. 216.1 is now recognized as the western representative of the above, under the name

216.1. *Creciscus coturniculus* (RIDGWAY). (Cf. BREWSTER, Auk, XXIV, 1907, 205-210.)

GENUS **CRYMOPHILUS** VIEILLOT. This becomes

GENUS **PHALAROPUS** BRISSON.

*Phalaropus* BRISSON, Orn., VI, 1760, 12. Type, *Tringa fulicaria* LINNÆUS.

222. *Crymophilus fulicarius* (LINNÆUS). This is changed to

222. *Phalaropus fulicarius* (LINNÆUS).

GENUS **PHALAROPUS** BRISSON, of the Check-List, becomes

GENUS **LOBIPES** CUVIER.

*Lobipes* CUVIER, Règne Animal, I, 1817, 495. Type, *Tringa lobata* LINNÆUS.

No. 223 thus becomes

223. *Lobipes lobatus* (LINNÆUS).

The above changes in the family **Phalaropodidæ** are explained by STONE (Auk, XXIV, 1907, 196), and ALLEN (Bull. Am. Mus. N. H., XXIII, 1907, 315).

GENUS **GALLINAGO** LEACH. An earlier reference is found in

GENUS **GALLINAGO** KOCH.

*Gallinago* KOCH, Syst. Baier. Zool., 1816, 312. Type, *Scolopax gallinago* LINNÆUS. (Cf. STONE, Auk, XXIV, 1907, 191.)

230.1. **Gallinago major** (GMELIN). This becomes

230.1. **Gallinago media** (LATHAM).

*Scolopax media* LATHAM, Suppl. Gen. Syn., I, 1787, 292. (Cf. OBERHOLSER, Auk, XVI, 1899, 179.) Latham appears to have been the first author to use *media* in a binomial sense.

GENUS **MACRORHAMPHUS** LEACH. Authority changed to

GENUS **MACRORHAMPHUS** T. FORSTER.

*Macrorhamphus* FORSTER, Synop. Cat. Brit. Birds, 1817, 22. Type, *Scolopax grisea* GMELIN.

*Macrorhamphus* is a *nomen nudum* with Leach. (Cf. STONE, Auk, 1907, 195.)

In the genus **Arquatella**, Nos. 236 and 237 become subspecies of No. 235 (Cf. BISHOP, Waterfowl Family, 1903, 365), as follows:

235a. **Arquatella maritima couesi** (RIDGWAY).

235b. **Arquatella maritima ptilocnemis** (COUES).

GENUS **ACTODROMAS** KAUP. By the action of the law of priority, this becomes

GENUS **PISOBIA** BILLBERG.

*Pisobia* BILLBERG, Syn. Faunæ Scand., I, ii, 1828, 136. Type, *Tringa minuta* LEISLER. (Cf. LÖNNBERG, Journ. f. Orn., 1906, 532.)

238. **Actodromas acuminata** (HORSFIELD). This is changed to

238. **Pisobia aurita** (LATHAM).

*Tringa aurita* LATHAM, Suppl. Ind. Orn., 1801, lxvi. (Cf. SHARPE, Hist. Coll. Brit. Mus. Birds, 1906, 147.)

Nos. 239 to [242.1] are changed as below:

239. *Pisobia maculata* (VIEILLOT).

240. *Pisobia fuscicollis* (VIEILLOT).

241. *Pisobia bairdii* (COUES).

242. *Pisobia minutilla* (VIEILLOT).

[242.1.] *Pisobia damacensis* (HORSFIELD).

247. *Ereunetes occidentalis* LAWRENCE. This is antedated by

247. *Ereunetes mauri* CABANIS.

*Ereunetes mauri* CABANIS, Journ. f. Orn., 1856, 419. (Cf. ALLEN, Auk, XXIII, 1906, 97, 98.)

GENUS **CALIDRIS** CUVIER. Authority is changed to

GENUS **CALIDRIS** ILLIGER.

*Calidris* ILLIGER, Prodrömus, 1811, 249. Type, *Charadrius calidris* LINNÆUS = *Tringa leucophæa* PALLAS.

*Calidris* of Cuvier, 1800, is a *nomen nudum*. (Cf. STONE, Auk, XXIV, 1907, 195; ALLEN, Bull. Am. Mus. N. H., XXIII, 1907, 318; XXIV, 1908, 16.)

248. *Calidris arenaria* (LINNÆUS). This is changed to

248. *Calidris leucophæa* (PALLAS).

*Tringa leucophæa* PALLAS, in VROEG's Cat., 1764, 32.

The name *Tringa leucophæa* has priority over *T. arenaria* LINNÆUS, 1766, as well as anteriority over *Trynga alba* in the Appendix to Vroeg's Catalogue. (RICHMOND, MS.)

GENUS **SYMPHEMIA** RAFINESQUE. This becomes

GENUS **CATOPTROPHORUS** BONAPARTE.

*Catoptrophorus* BONAPARTE, Ann. Lyc. N. H. N. Y., II, 1827, 323. Type, *Scolopax semipalmata* GMELIN. (Cf. RICHMOND, Proc. Biol. Soc. Wash., XVIII, 1905, 75.)

*Symphemia* proves to have been based on *Tringa semipalmata*, not *Scolopax semipalmata*, and is a synonym of *Ereunetes*.

Nos. 258 and 258a thus become

258. *Catoptrophorus semipalmatus* (GMELIN).

258a. *Catoptrophorus semipalmatus inornatus* (BREWSTER).

264. *Numenius longirostris* WILSON. An earlier name occurs in

264. *Numenius americanus* BECHSTEIN.

*Numenius americanus* BECHSTEIN, in LATHAM, Allg. Ueb. Vögel, IV, ii, 1812, 432. (RICHMOND, MS.)

283.1. *Arenaria morinella* (LINNÆUS). This becomes a subspecies of No. 283, and will stand as

283a. *Arenaria interpres morinella* (LINNÆUS).

The Ruddy Turnstone is found to intergrade with *A. interpres*, and the above change becomes necessary. (Cf. BISHOP, Auk, XXIII, 1906, 335.)

316. *Zenaidura macroura* (LINNÆUS). This becomes

316. *Zenaidura macroura carolinensis* (LINNÆUS).

*Columba carolinensis* LINNÆUS, Syst. Nat., ed. 12, I, 1766, 286.

Linnæus appears to have based the name *Columba macroura* on Edwards's plate 15, and not on Catesby. On this assumption *Zenaidura macroura* becomes the name of the West Indian bird, while that for the continental form is as given above. (Cf. also, BANGS, Proc. Biol. Soc. Wash., XIX, 1906, 44.)

319. *Melopelia leucoptera* (LINNÆUS). This is changed to

319. *Melopelia asiatica* (LINNÆUS).

*Columba asiatica* LINNÆUS, Syst. Nat., ed. 10, I, 1758, 163.

The name *asiatica* has anteriority over *leucoptera*, and should be substituted for it, both names having exactly the same foundation. (RICHMOND, MS.)

GENUS **GYPAGUS** VIEILLÔT. This becomes

GENUS **SARCORAMPHUS** DUMÉRIL.

*Sarcoramphus* DUMÉRIL, Zool. Analytique, 1806, 32. Type,  
*Vultur papa* LINNÆUS. (Cf. ALLEN, Bull. Am. Mus. N. H.,  
XXIV, 1908, 35, 38.)

No. 12 of the Hypothetical List therefore becomes

12. **Sarcoramphus papa** (LINNÆUS).

325. **Cathartes aura** (LINNÆUS). This is changed to

325. **Cathartes aura septentrionalis** (WIED).

*Cathartes septentrionalis* WIED, Reise Nord-America, I, 1839,  
162.

The name *aura* is considered to have been based on the smaller  
form, from Mexico, Central America and the West Indies. (Cf.  
NELSON, Proc. Biol. Soc. Wash., XVIII, 1905, 122-125.)

SUBGENUS **ASTUR** LACÉPÈDE. This becomes

GENUS **ASTUR** LACÉPÈDE.

*Astur* LACÉPÈDE, Tabl. Ois., 1799, 4. Type, *Falco pal-*  
*umbarius* LINNÆUS. (Cf. COUES, Osprey, III, 1899, 144.)

Nos. 334 and 334a are thus changed to

334. **Astur atricapillus** (WILSON).

334a. **Astur atricapillus striatulus** RIDGWAY.

GENUS **URUBITINGA** LESSON. Authority becomes

GENUS **URUBITINGA** LAFRESNAYE.

*Urubitinga* LAFRESNAYE, Dict. Univ. Hist. Nat., II, 1843, 786.  
Type, *Falco urubitinga* GMELIN. (Cf. STONE, Auk, XXIV,  
1907, 195.)

358. *Falco richardsonii* RIDGWAY, becomes a subspecies of No. 357, and will stand as

357b. *Falco columbarius richardsonii* (RIDGWAY).

[358.1.] *Falco regulus* PALLAS. An earlier name occurs in

[358.1.] *Falco æsalon* TUNSTALL.

*Falco æsalon* TUNSTALL, Orn. Britannica, 1771, 1. (RICHMOND, MS.)

FAMILY **STRIGIDÆ**. Barn Owls. This becomes

FAMILY **ALUCONIDÆ**. Barn Owls.

GENUS **STRIX** LINNÆUS. Becomes

GENUS **ALUCO** FLEMING.

*Aluco* FLEMING, Philos. Zool., II, 1822, 236. Type, *Strix flammea* LINNÆUS, 1766 (*nec* PONTOPPIDAN, 1763) = *Strix alba* SCOPOLI, 1769.

It is found that *Strix* cannot be used for the Barn Owls, since the Barn Owl did not occur in the 10th edition of the *Systema Naturæ* (*Strix aluco* of 1758 proves to be the Wood Owl, or *S. stridula* of the same date, and not, as generally supposed, the Barn Owl), and Brisson, in 1760, fixed the type of *Strix* as *S. aluco*. (Cf. ALLEN, Auk, XXV, July, 1908, 288-291.) The generic name *Strix* is therefore transferred to the group hitherto known as *Syrnium*, while the family name **Bubonidæ** will give way to **Strigidæ**. (Cf. also: COUES, Key, ed. 5, II, 1903, 621.)

No. 365 thus becomes

365. *Aluco pratincola* (BONAPARTE).

FAMILY **BUBONIDÆ**. This becomes

FAMILY **STRIGIDÆ**.

367. *Asio accipitrinus* (PALLAS). An earlier name is found in

367. *Asio flammeus* (PONTOPPIDAN).

*Strix flammea* PONTOPPIDAN, Danske Atlas, I, 1763, 617, pl. XXV.

Pontoppidan's *Strix flammea* is based on Linnæus, Fauna Suecica, 1761, no. 73, which, in turn, is founded on Rudbeck's drawing. This is generally admitted to represent the Short-eared Owl. (Cf. also: NILSSON, Orn. Suecica, 1817, 62, and BILLBERG, Syn. Faunæ Scand., I, ii, 1828, 116.) (RICHMOND, MS.)

GENUS **SYRNIUM** SAVIGNY. This becomes

GENUS **STRIX** LINNÆUS.

*Strix* LINNÆUS, Syst. Nat., ed. 10, I, 1758, 92. Type, *Strix aluco* LINNÆUS, no. 6 = no. 9, or *Strix stridula*, of the same author. (Cf. ALLEN, Auk, XXV, July 1908, 290.)

The following changes are required in the nomenclature of Nos. 368 to 369a:

368. **Strix varia** BARTON.

368a. **Strix varia alleni** (RIDGWAY).

368b. **Strix varia albogilva** BANGS. Replaces *Syrnium nebulosum helveolum* BANGS, preoccupied by *Strix helvola* LICHTENSTEIN, 1842. (Cf. BANGS, Auk, XXV, 1908, 316.)

369. **Strix occidentalis** (XANTUS).

369a. **Strix occidentalis caurina** (MERRIAM).

GENUS **CRYPTOGLAUX** RICHMOND. This becomes

GENUS **GLAUX** MORRIS.

*Glaux* MORRIS, Naturalist (Wood's), II, 1837, 123. Type, *Strix tengmalmi* GMELIN = *Strix funerea* LINNÆUS. (RICHMOND, MS.)

371. **Cryptoglaux tengmalmi richardsoni** (BONAPARTE). This becomes

371. **Glaux funerea richardsoni** (BONAPARTE).

*Strix funerea* LINNÆUS proves to be equivalent to *S. tengmalmi* GMELIN. (Cf. LÖNNBERG, Journ. f. Orn., 1906, 531; also, PONTOPPIDAN, Danske Atlas, I, 1763, 617, pl. xxv; NILSSON, Orn. Suecica, 1817, 66; BILLBERG, Syn. Faunæ Scand., I, ii, 1828, 115.)

Nos. 372 and 372a will stand as

372. *Glaux acadicus* (GMELIN).

372a. *Glaux acadicus scotæus* (OSGOOD).

GENUS **MEGASCOPS** KAUP. An earlier name is found in

GENUS **OTUS** PENNANT.

*Otus* PENNANT, Indian Zool., 1769, 3. Type, *Otus bakkamæna*  
PENNANT. (Cf. STONE, Auk, 1903, 275; 1907, 192; ALLEN,  
Bull. Am. Mus. N. H., XXIV, 1908, 22.)

Nos. 373 to 374a of the Check-List require change as follows:

373. *Otus asio* (LINNÆUS).

373a. *Otus asio floridanus* (RIDGWAY).

373b. *Otus asio mcallii* (CASSIN).

373c. *Otus asio bendirei* (BREWSTER).

373d. *Otus asio kennicottii* (ELLIOT).

373e. *Otus asio maxwelliæ* (RIDGWAY).

373f. *Otus asio cineraceus* (RIDGWAY).

373g. *Otus asio aikenii* (BREWSTER).

373h. *Otus asio macfarlanei* (BREWSTER).

373.1. *Otus trichopsis* (WAGLER).

373.2. *Otus xantusi* (BREWSTER).

374. *Otus flammeola* (KAUP).

374a. *Otus flammeola idahoensis* (MERRIAM).

375b. *Bubo virginianus arcticus* (SWAINSON). This becomes

375b. *Bubo virginianus subarcticus* (HOY).

*Bubo subarcticus* HOY, Proc. Acad. Nat. Sci. Phila., VI, (1852),  
1853, 211.

The name *arcticus* proves to be preoccupied. (Cf. RICHMOND,  
Proc. Biol. Soc. Wash., XV, 1902, 86.)

GENUS **CONURUS** KUHL. This becomes

GENUS **CONUROPSIS** SALVADORI.

*Conuropsis* SALVADORI, Cat. Birds Brit. Mus., XX, 1891, 203.

Type, *Psittacus carolinensis* LINNÆUS. (Cf. ALLEN, Bull. Am. Mus. N. H., XXIV, 1908, 17.)

382. **Conurus carolinensis** (LINNÆUS). Becomes

382. **Conuropsis carolinensis** (LINNÆUS).

GENUS **TROGON** LINNÆUS. Authority changed to

GENUS **TROGON** BRISSON.

*Trogon* BRISSON, Orn., IV, 1760, 164. Type, *Trogon viridis*

LINNÆUS = *T. strigilatus* LINNÆUS. (Cf. STONE, Auk, XXIV, 1907, 192; ALLEN, Bull. Am. Mus. N. H., XXIII, 1907, 340.)

SUBGENUS **STREPTOCERYLE** BONAPARTE. This becomes

SUBGENUS **MEGACERYLE** KAUP.

*Megaceryle* KAUP, Ver. naturhist. Vereins Hessen, II, 1848, 68.

Type, *Alcedo guttata* BODDAERT = *A. maxima* PALLAS.

*Megaceryle* has priority over *Streptoceryle*, and should supersede it in the List. (RICHMOND, MS.)

GENUS **CEOPHLOEUS** CABANIS. This is changed to

GENUS **PHLÆOTOMUS** CABANIS.

*Phlæotomus* CABANIS, Mus. Hein., IV, ii, 1863, 102. Type,

*Picus pileatus* LINNÆUS.

*Ceophlæus* and *Phlæotomus* are held to be generically distinct, and the type of *Ceophlæus* is *Picus lineatus* (an extralimital form), not *P. pileatus* as given in the Check-List. (Cf. STONE, Auk, XXIV, 1907, 197; ALLEN, Bull. Am. Mus. N. H., XXIII, 1907, 342.)

The following changes are required in Nos. 405 and 405a:

- 405. *Phlœotomus pileatus* (LINNÆUS).
- 405a. *Phlœotomus pileatus abieticola* (BANGS).
- 408. *Asyndesmus torquatus* (WILSON). This is superseded by
- 408. *Asyndesmus lewisi* RILEY.

*Asyndesmus lewisi* RILEY, Proc. Biol. Soc. Wash., XVIII, 1905, 225. *Picus torquatus* WILSON, 1811, proves to be preoccupied by *Picus torquatus* BODDAERT, 1783.

GENUS **ANTROSTOMUS** GOULD. Authority changed to

GENUS **ANTROSTOMUS** BONAPARTE.

*Antrostomus* BONAPARTE, Geog. & Comp. List, 1838, 8. Type, *Caprimulgus carolinensis* GMELIN. (Cf. STONE, Auk, XXIV, 1907, 196; ALLEN, Bull. Am. Mus. N. H., XXIV, 1908, 32.) The name was first published by Bonaparte, not Gould.

GENUS **COELIGENA** LESSON. This becomes

GENUS **CYANOLÆMUS** STONE.

*Cyanolæmus* STONE, Auk, XXIV, 1907, 197. Type, *Ornismya clemenciæ* LESSON. (Cf. STONE, Auk, XXIV, 1907, 196; ALLEN, Bull. Am. Mus. N. H., XXIII, 1907, 345.)

The type of *Cœligena* proves to be *Ornismya cœligena*, a member of an extralimital group. The *Cœligena* of the Check-List becomes *Cyanolæmus*, as above, while No. 427 is changed to

- 427. *Cyanolæmus clemenciæ* (LESSON).

GENUS **IACHE** ELLIOT. This becomes

GENUS **CYNANTHUS** SWAINSON.

*Cynanthus* SWAINSON, Philos. Mag., N. S., I, June, 1827, 441. Type, *Cynanthus latirostris* SWAINSON. (Cf. STONE, Auk, XXIV, 1907, 192; ALLEN, Bull. Am. Mus. N. H., XXIII, 1907, 347; XXIV, 1908, 34.)

*Iache latirostris* of the Check-List thus becomes

441. **Cynanthus latirostris** SWAINSON.

No. 441.1 becomes a subspecies of *Platypsaris aglaia*. (Cf. RIDGWAY, Bull. U. S. Nat. Mus., No. 50, Pt. IV, 1907, 856), viz.:

441.1. **Platypsaris aglaia albiventris** (LAWRENCE).

449. **Pitangus derbianus** (KAUP). This is reduced to a subspecies, as

449. **Pitangus sulphuratus derbianus** (KAUP). (Cf. RIDGWAY, Bull. U. S. Nat. Mus., No. 50, Pt. IV, 1907, 672.)

453. **Myiarchus mexicanus** (KAUP). This is changed to

453a. **Myiarchus magister nelsoni** RIDGWAY.

*Myiarchus magister nelsoni* RIDGWAY, Bull. U. S. Nat. Mus., No. 50, Pt. IV, 1907, 903.

*Myiarchus mexicanus* of Kaup proves to be equivalent to *M. cinerascens*, which name, having priority, is retained. (Cf. OSGOOD, Auk, XXIV, 1907, 219, 220.)

No. 453a of the Check-List becomes

453. **Myiarchus magister** (RIDGWAY).

GENUS **SAYORNIS** BONAPARTE. Authority changed to

GENUS **SAYORNIS** G. R. GRAY.

*Sayornis* GRAY, Cat. Genera Birds, 1855, 146. Type, *Muscicapula saya* BONAPARTE. (Cf. STONE, Auk, XXIV, 1907, 196.)

GENUS **CONTOPUS** CABANIS. This is preoccupied, and becomes

GENUS **MYIOCHANES** CABANIS & HEINE.

*Myiochanes* CABANIS & HEINE, Mus. Hein., II, 1859, 71.

Type, *Platyrhynchus cinereus* SPIX. (Cf. RIDGWAY, Bull. U. S. Nat. Mus., No. 50, Pt. IV, 1907, 509.)

*Myiochanes cinereus* (SPIX) is held to be congeneric with the Wood Pewee and its allies, and *Myiochanes* is therefore available for this group in place of *Contopus*.

Nos. 460 to 462a of the Check-List thus become

- 460. **Myiochanes pertinax pallidiventris** (CHAPMAN).
- 461. **Myiochanes virens** (LINNÆUS).
- 462. **Myiochanes richardsonii** (SWAINSON).
- 462a. **Myiochanes richardsonii peninsulæ** (BREWSTER).
- 464.1. **Empidonax cineritius** Brewster. This becomes a subspecies of *E. difficilis*, and will stand as
- 464a. **Empidonax difficilis cineritius** (BREWSTER). (Cf. RIDGWAY, Bull. U. S. Nat. Mus., No. 50, Pt. IV, 1907, 580.)
- 469.1. **Empidonax canescens** SALVIN & GODMAN. This again becomes
- 469.1. **Empidonax griseus** BREWSTER.

*Empidonax griseus* BREWSTER, Auk, VI, April, 1889, 87 (author's edition published Jan. 31, 1889). (Cf. RIDGWAY, Bull. U. S. Nat. Mus., No. 50, Pt. IV, 1907, 570; NELSON, Auk, XXIV, 1907, 99, 100.)

GENUS **ORNITHION** HARTLAUB. This becomes

GENUS **CAMPTOSTOMA** SCLATER.

*Camptostoma* SCLATER, Proc. Zool. Soc. Lond., 1857, 203. Type, *Camptostoma imberbe* SCLATER. (Cf. RIDGWAY, Bull. U. S. Nat. Mus., No. 50, Pt. IV, 1907, 411.) *Ornithion* is restricted to an extralimital group.

No. 472 should therefore stand as follows:

- 472. **Camptostoma imberbe** (SCLATER).
- [493.] **Sturnus vulgaris** LINNÆUS. The brackets are to be removed, as the species is now believed to occur more or less regularly in Greenland. (Cf. SCHALOW, Vögel Arktis, 1904, 243.)

GENUS **Callothrus** CASSIN. This, following the law of priority, is changed to

GENUS **Tangavius** LESSON.

*Tangavius* LESSON, Revue Zool., II, 1839, 41. Type, *Tangavius involucratus* LESSON. (Cf. NELSON, Proc. Biol. Soc. Wash., XVIII, 1905, 125.)

The name *Tangavius* is equivalent to *Callothrus*, and has priority.

No. 496 becomes a subspecies, under the name

496. **Tangavius æneus involucratus** (LESSON).

*Tangavius involucratus* LESSON, Revue Zool., II, 1839, 41.  
(Cf. NELSON, l. c.)

501b. **Sturnella magna neglecta** (AUDUBON). This becomes a full species:

501.1. **Sturnella neglecta** AUDUBON. (Cf. RIDGWAY, Bull. U. S. Nat. Mus., No. 50, Pt. II, 1902, 365.)

[502.] **Icterus icterus** (LINNÆUS). This is transferred to the Hypothetical List, as No. 16.3.

GENUS **Passerina** VIEILLOT. This again becomes

GENUS **Plectrophenax** STEJNEGER.

*Plectrophenax* STEJNEGER, Proc. U. S. Nat. Mus., V, 1882, 33.  
Type, *Emberiza nivalis* LINNÆUS. (Cf. STONE, Auk, XXIV, 1907, 199; ALLEN, Bull. Am. Mus. N. H., XXIV, 1908, 23.)

Nos. 534, 534a, and 535 thus stand as given in both editions of the Check-List, viz.:

534. **Plectrophenax nivalis** (LINNÆUS).

534a. **Plectrophenax nivalis townsendi** RIDGWAY.

535. **Plectrophenax hyperboreus** RIDGWAY.

546. *Coturniculus savannarum passerinus* (WILSON). This becomes  
 546. *Coturniculus savannarum australis* (MAYNARD).

*Ammodromus australis* MAYNARD, Amer. Exch. and Mart,  
 III, 1887, 33.

The name *passerinus* (*Fringilla passerina* WILSON, 1811), hitherto applied to this species, proves to be preoccupied, and the above change becomes necessary. (See also, reference under the next case.) (RICHMOND, MS.)

560. *Spizella socialis* (WILSON). An earlier name is found in  
 560. *Spizella passerina* (BECHSTEIN).

*Fringilla passerina* BECHSTEIN, in LATHAM, Allg. Ueb. Vögel,  
 III, ii, 1798, 544, pl. 120, f. I.

Bechstein's name *Fringilla passerina*, accompanied by a plate and description, antedates by several years the name *F. socialis* WILSON, applied to the same species. (RICHMOND, MS.)

No. 560a requires the following change:

- 560a. *Spizella passerina arizonæ* (COUES).

Changes in status become necessary in the following Juncos:

- 567.1. *Junco montanus* RIDGWAY. Becomes  
 567f. *Junco hyemalis montanus* (RIDGWAY).  
 568. *Junco mearnsi* RIDGWAY. This becomes  
 567g. *Junco hyemalis mearnsi* (RIDGWAY).  
 568.1. *Junco annectens* BAIRD. Becomes  
 567h. *Junco hyemalis annectens* (BAIRD).  
 571.1. *Junco townsendi* ANTHONY. This is changed to  
 567i. *Junco hyemalis townsendi* (ANTHONY).  
 569. *Junco caniceps* (WOODHOUSE). Becomes  
 570b. *Junco phænotus caniceps* (WOODHOUSE).

- 574a. *Amphispiza belli nevadensis* (RIDGWAY). This is accorded specific rank, as
- 574.1. *Amphispiza nevadensis* (RIDGWAY). (Cf. GRINNELL, Auk, 1898, 59.)
- 574b. *Amphispiza belli cinerea* TOWNSEND. This becomes a subspecies of *A. nevadensis*, viz.:
- 574.1a. *Amphispiza nevadensis cinerea* (TOWNSEND).

The Song Sparrows again become subspecies of *Melospiza melodia*, by reason of the preoccupation of *Fringilla cinerea* GMELIN. They will stand as follows:

581. *Melospiza melodia* (WILSON).
- 581a. *Melospiza melodia fallax* (BAIRD).
- 581b. *Melospiza melodia montana* (HENSHAW).
- 581c. *Melospiza melodia heermanni* (BAIRD).
- 581d. *Melospiza melodia samuelis* (BAIRD).
- 581e. *Melospiza melodia morphna* OBERHOLSER.
- 581f. *Melospiza melodia rufina* (BONAPARTE).
- 581g. *Melospiza melodia rivularis* (W. BRYANT).
- 581h. *Melospiza melodia graminea* (C. H. TOWNSEND).
- 581i. *Melospiza melodia clementæ* (C. H. TOWNSEND).
- 581j. *Melospiza melodia juddi* (BISHOP).
- 581k. *Melospiza melodia merrilli* (BREWSTER).
- 581l. *Melospiza melodia pusillula* (RIDGWAY).
- 581m. *Melospiza melodia cooperi* (RIDGWAY).
- 581n. *Melospiza melodia caurina* (RIDGWAY).
- 581o. *Melospiza melodia kenaiensis* RIDGWAY.
- 581p. *Melospiza melodia cleonensis* MCGREGOR.
- 581q. *Melospiza melodia insignis* (BAIRD). (No. 581.1 of Check-List.)
- 581r. *Melospiza melodia sanaka* (MCGREGOR). (No. 582 of the Check-List.)

*Melospiza sanaka* MCGREGOR, Condor, III, 1901, 8 (author's edition, published Nov. 25, 1900).

*Fringilla cinerea* GMELIN, 1788, proves to be preoccupied by *Fringilla cinerea* MEUSCHEN, 1787, and can no longer be used for the Aleutian Song Sparrow, which becomes *M. m. sanaka*, as above. (RICHMOND, MS.) The nomenclatural result of this change is to bring the entire series of Song Sparrows again under *Melospiza melodia*, as subspecies.

The following changes become necessary in the genus **Pipilo**:

588a. **Pipilo maculatus megalonyx** (BAIRD). Changed to

588a. **Pipilo maculatus montanus** SWARTH.

*Pipilo maculatus montanus* SWARTH, Condor, VII, 1905, 172.  
(Cf. RIDGWAY, Condor, VIII, 1906, 100.)

588d. **Pipilo maculatus atratus** RIDGWAY. This becomes

588d. **Pipilo maculatus megalonyx** (BAIRD).

*Pipilo megalonyx* BAIRD, Reports Expl. & Surv. R. R. Pac., IX, 1858, 515. (Cf. RIDGWAY, Condor, VIII, 1906, 100.)

591b. **Pipilo fuscus crissalis** (VIGORS). This becomes a full species:

591.1. **Pipilo crissalis** (VIGORS). (Cf. RIDGWAY, Bull. U. S. Nat. Mus., No. 50, Pt. I, 1901, 434.)

No. 591c of the Check-List becomes

591.1a. **Pipilo crissalis senicula** (ANTHONY).

GENUS **CYANOSPIZA** BAIRD. This again becomes

GENUS **PASSERINA** VIEILLOT.

*Passerina* VIEILLOT, Analyse, 1816, 30. Type, *Tanagra cyanea* LINNÆUS. (Cf. STONE, Auk, XXIV, 1907, 199; ALLEN, Bull. Am. Mus. N. H., XXIV, 1908, 37.)

Nos. 598 to 601 thus stand as given in the first and second editions of the Check-List, viz.:

598. **Passerina cyanea** (LINNÆUS).

599. *Passerina amœna* (SAY).  
600. *Passerina versicolor* (BONAPARTE).  
600a. *Passerina versicolor pulchra* RIDGWAY.  
601. *Passerina ciris* (LINNÆUS).  
602. *Sporophila morelleti* (BONAPARTE). This again becomes  
602. *Sporophila morelleti sharpei* LAWRENCE.

*Sporophila morelleti sharpei* LAWRENCE, Auk, VI, 1889, 53. (Cf. ALLEN, Auk, XXIV, 1907, 26-30.) No. 602 thus stands as given in the second edition of the Check-List.

FAMILY **TANAGRIDÆ**. This is changed to

FAMILY **TANGARIDÆ**.

*Tangara* BRISSON, 1760, antedates and preoccupies *Tanagra* LINNÆUS, 1764. Even if the two terms be considered distinct, *Tanagra* of Linnæus at 1764 becomes either a synonym of *Euphonia* DESMAREST, or a member of the family Icteridæ, and is thus not available for the generic name of a group of Tanagers, nor as the basis of the family name.

FAMILY **AMPELIDÆ**. becomes

FAMILY **BOMBYCILLIDÆ**.

GENUS **AMPELIS** LINNÆUS. This becomes

GENUS **BOMBYCILLA** VIEILLOT.

*Bombycilla* VIEILLOT, Ois. Amer. Sept., I, 1807, 88. Type, *Bombycilla cedrorum* VIEILLOT.

The name *Ampelis* is not available for use in this family, belonging properly to the Cotingidæ. (Cf. ALLEN, Bull. Am. Mus. N. H., XXIV, 1908, 12.)

Agreeable to the above changes, Nos. 618 and 619 become

618. *Bombycilla garrula* (LINNÆUS).  
619. *Bombycilla cedrorum* VIEILLOT.

The following changes are made in the family Vireonidæ:

SUBGENUS **VIREOSYLVA** BONAPARTE. This becomes

GENUS **VIREOSYLVA** BONAPARTE.

*Vireosylva* BONAPARTE, Geog. & Comp. List, 1838, 26.  
Type, *Muscicapa olivacea* LINNÆUS. (Cf. RIDGWAY, Bull. U. S. Nat. Mus., No. 50, Pt. III, 1904, 130.)

Nos. 623 to 627*a* thus stand as

- 623. *Vireosylva calidris barbatula* (CABANIS).
- 624. *Vireosylva olivacea* (LINNÆUS).
- 625. *Vireosylva flavoviridis* CASSIN.
- 626. *Vireosylva philadelphica* CASSIN.
- 627. *Vireosylva gilva* (VIEILLOT).
- 627*a*. *Vireosylva gilva swainsonii* (BAIRD).

SUBGENUS **LANIVIREO** BAIRD. This becomes

GENUS **LANIVIREO** BAIRD.

*Lanivireo* BAIRD, Review Amer. Birds, 1866, 326, 345. Type,  
*Vireo flavifrons* VIEILLOT. (Cf. RIDGWAY, Bull. U. S. Nat. Mus., No. 50, Pt. III, 1904, 161.)

The following alterations become necessary in Nos. 628 to 629*d*:

- 628. *Lanivireo flavifrons* (VIEILLOT).
- 629. *Lanivireo solitarius* (WILSON).
- 629*a*. *Lanivireo solitarius cassinii* (XANTUS).
- 629*b*. *Lanivireo solitarius plumbeus* (COUES).
- 629*c*. *Lanivireo solitarius alticola* (BREWSTER).
- 629*d*. *Lanivireo solitarius lucasanus* (BREWSTER).

The genus *Vireo*, as represented in the Check-List, is restricted to Nos. 630 to 634.

631. **Vireo noveboracensis** (GMELIN). An earlier name is found in  
631. **Vireo griseus** (BODDAERT).

*Tanagra grisea* BODDAERT, Table Pl. Enl., 1783, 45. (RICHMOND, MS.)

Nos. 631a, 631b, and 631c thus become

- 631a. **Vireo griseus maynardi** (BREWSTER).  
631b. **Vireo griseus bermudianus** (BANGS & BRADLEE).  
631c. **Vireo griseus micrus** (NELSON).  
633.1. **Vireo pusillus** COUES. This is again reduced to sub-specific rank, and will stand as  
633a. **Vireo bellii pusillus** (COUES). (Cf. OBERHOLSER, Proc. Biol. Soc. Wash., XVI, 1903, 17, 18; RIDGWAY, Bull. U. S. Nat. Mus., No. 50, Pt. III, 1904, 208.)

SUBGENUS **PEUCEDRAMUS** COUES. This becomes

GENUS **PEUCEDRAMUS** "COUES" HENSHAW.

*Peucedramus* HENSHAW, Ann. Rept. Geog. Expl. West of 100th Merid., 1875, 156. Type, *Sylvia olivacea* GIRAUD. (Cf. RIDGWAY, Bull. U. S. Nat. Mus., No. 50, Pt. II, 1902, 493; CHAPMAN, Warblers of N. A., 1907, 110.)

No. 651 thus becomes

651. **Peucedramus olivaceus** (GIRAUD).  
657. **Dendroica maculosa** (GMELIN). This is changed to  
657. **Dendroica magnolia** (WILSON).

*Sylvia magnolia* WILSON, Amer. Orn., III, 1811, 63, pl. 23, f. 2.

*Motacilla maculosa* GMELIN, 1788, proves to be preoccupied by *Motacilla maculosa* BODDAERT, 1783, and *Sylvia magnolia* WILSON, as the next available name, is substituted for it. (RICHMOND, MS.)

SUBGENUS **OPORORNIS** BAIRD. This is elevated to generic rank,  
as

GENUS **OPORORNIS** BAIRD.

*Oporornis* BAIRD, Rep. Expl. & Surv. R. R. Pac., IX, 1858, 246. Type, *Sylvia agilis* WILSON. (Cf. RIDGWAY, Bull. U. S. Nat. Mus., No. 50, Pt. II, 1902, 621; CHAPMAN, Warblers of N. A., 1907, 235.)

*Oporornis* includes Nos. 677 to 680, which will stand as follows:

- 677. *Oporornis formosa* (WILSON).
- 678. *Oporornis agilis* (WILSON).
- 679. *Oporornis philadelphia* (WILSON).
- 680. *Oporornis tolmiei* (TOWNSEND).

The genus *Geothlypis* is restricted (in North America) to *Geothlypis trichas* and subspecies, and *G. beldingi*.

SUBGENUS **CHAMÆTHLYPIS** RIDGWAY. This becomes

GENUS **CHAMÆTHLYPIS** RIDGWAY.

*Chamæthlypis* RIDGWAY, Man. N. A. Birds, 1887, 525. Type, *Geothlypis poliocephala* BAIRD. (Cf. RIDGWAY, Bull. U. S. Nat. Mus., No. 50, Pt. II, 1902, 686; CHAPMAN, Warblers of N. A., 1907, 263.)

No. 682.1 thus becomes

- 682.1. *Chamæthlypis poliocephala* (BAIRD).
- 684. *Wilsonia mitrata* (GMELIN). An earlier name is found in
- 684. *Wilsonia citrina* (BODDAERT).

*Muscicapa citrina* BODDAERT, Table Pl. Enl., 1783, 41.  
(RICHMOND, MS.)

- 697. *Anthus pensilvanicus* (LATHAM). An earlier name occurs in
- 697. *Anthus rubescens* (TUNSTALL).

*Alauda rubescens* TUNSTALL, Orn. Britannica, 1771, 2.  
(RICHMOND, MS.)

GENUS **CINCLUS** BECHSTEIN. Authority is changed to

GENUS **CINCLUS** BORKHAUSEN.

*Cinclus* BORKHAUSEN, Deutsche Fauna, I, 1797, 300. Type, *Cinclus hydropphilus* BORKHAUSEN = *Sturnus cinclus* LINNÆUS. (Cf. ALLEN, Bull. Am. Mus. N. H., XXIII, 1907, 372.)

701. *Cinclus mexicanus* SWAINSON. This becomes

701. *Cinclus mexicanus unicolor* (BONAPARTE).

*Cinclus unicolor* BONAPARTE, Zool. Journ., III, 1827, 52, 53. (Cf. RIDGWAY, Bull. U. S. Nat. Mus., No. 50, Pt. III, 1904, 679.)

GENUS **GALEOSOPTES** CABANIS. By reason of priority this is changed to

GENUS **DUMETELLA** S. D. W.

*Dumetella* S. D. W., Analyst, V, 1837, 206. Type, *Turdus felivox* VIEILLOT = *Muscicapa carolinensis* LINNÆUS. (Cf. STONE, Auk, XXIV, 1907, 193; ALLEN, Bull. Am. Mus. N. H., XXIV, 1908, 17.)

704. *Galeoscoptes carolinensis* (LINNÆUS). This becomes

704. *Dumetella carolinensis* (LINNÆUS).

719b. *Thryomanes bewickii leucogaster* (BAIRD). This is again changed to

719b. *Thryomanes bewickii bairdi* (SALVIN & GODMAN).

*Thryothorus bairdi* SALVIN & GODMAN, Biol. Centr.-Amer., Aves., I, April, 1880, 95. (Cf. RIDGWAY, Bull. U. S. Nat. Mus., No. 50, Pt. III, 1904, 560.) The change is made on the ground that *Thryothorus bewickii leucogaster* of Baird was not intended as a new name, but simply as *Troglodytes leucogaster* GOULD, placed in the genus *Thryothorus*, Baird being under the impression that *T. leucogaster* GOULD represented the present form, instead of a bird of an entirely different genus.

GENUS **OLBIORCHILUS** OBERHOLSER. This is replaced by

GENUS **NANNUS** BILLBERG.

*Nannus* BILLBERG, Syn. Faunæ Scand., I, ii, 1828, table A, and p. 57. Type, *Motacilla troglodytes* LINNÆUS. (Cf. STONE, Auk, XXIV, 1907, 194; ALLEN, Bull. Am. Mus. N. H., XXIV, 1908, 21.)

Nos. 722 to 723.1 of the Check-List will thus become

- 722. **Nannus hiemalis** (VIEILLOT).
- 722a. **Nannus hiemalis pacificus** (BAIRD).
- 722b. **Nannus hiemalis helleri** (OSGOOD).
- 723. **Nannus alascensis** (BAIRD).
- 723.1. **Nannus meligerus** (OBERHOLSER).

GENUS **PARUS** LINNÆUS. This becomes

GENUS **PENTHESTES** REICHENBACH.

*Penthestes* REICHENBACH, Avium Syst. Nat., 1850, pl. LXII, fig. Type, *Parus lugubris* TEMMINCK. (Cf. RIDGWAY, Bull. U. S. Nat. Mus., No. 50, Pt. III, 1904, 394.)

Nos. 735 to 741b of the List will thus stand as follows:

- 735. **Penthestes atricapillus** (LINNÆUS).
- 735a. **Penthestes atricapillus septentrionalis** (HARRIS).
- 735b. **Penthestes atricapillus occidentalis** (BAIRD).
- 735c. **Penthestes atricapillus turneri** (RIDGWAY).
- 736. **Penthestes carolinensis** (AUDUBON).
- 736a. **Penthestes carolinensis agilis** (SENNETT).
- 736b. **Penthestes carolinensis impiger** (BANGS).
- 737. **Penthestes sclateri** (KLEINSCHMIDT).
- 738. **Penthestes gambeli** (RIDGWAY).

- 738a. *Penthestes gambeli baileyæ* (J. GRINNELL).  
739. *Penthestes cinctus alascensis* (PRAZAK).  
740. *Penthestes hudsonicus* (FORSTER).  
740a. *Penthestes hudsonicus littoralis* (H. BRYANT).  
741. *Penthestes rufescens* (J. K. TOWNSEND).  
741a. *Penthestes rufescens neglectus* (RIDGWAY).  
741b. *Penthestes rufescens barlowi* (J. GRINNELL).  
760. *Turdus iliacus* LINNÆUS. This becomes  
760. *Turdus musicus* LINNÆUS.

*Turdus musicus* LINNÆUS, Syst. Nat., ed. 10, I, 1758, 169.

The names *iliacus* and *musicus*, as usually understood, should be reversed and cited from the 10th edition of the Systema Naturæ, and No. 760 of the Check-List should stand as *T. musicus*. (Cf. HARTERT, Ibis, 1904, 431.) The names were reversed by Linnæus in Faun. Suec., ed. 2, 1761, and in Syst. Nat., ed. 12.

GENUS **MERULA** LEACH. This is changed to

GENUS **PLANESTICUS** BONAPARTE.

*Planesticus* BONAPARTE, Comptes Rendus, XXXVIII, 1854, 3.

Type, *Turdus lereboulleti* BONAPARTE = *Turdus jamaicensis* GMELIN. (Cf. RIDGWAY, Bull. U. S. Nat. Mus., No. 50, Pt. IV, 1907, 90.)

*Merula* LEACH, 1816, proves to be antedated by *Merula* KOCH, 1816, for a group of Starlings.

The following changes are necessary in Nos. 761 to 762.

761. *Planesticus migratorius* (LINNÆUS).  
761a. *Planesticus migratorius propinquus* (RIDGWAY).  
761b. *Planesticus migratorius achrusterus* (BACHELDER).  
762. *Planesticus confinis* (BAIRD).

GENUS **CYANECULA** BREHM. An earlier name occurs in

GENUS **CYANOSYLVA** BREHM.

*Cyanosylvia* BREHM, Isis, XXI, 1828, 920. Type, *Motacilla suecica* LINNÆUS. (Cf. RIDGWAY, Bull. U. S. Nat. Mus., No. 50, Pt. IV, 1907, 14.)

764. **Cyanecula suecica** (LINNÆUS). This is changed to

764. **Cyanosylvia suecica robusta** (BUTURLIN).

Siberian Red-spotted Bluethroat.

*Cyanecula suecica robusta* BUTURLIN, Orn. Monatsb., XV, 1907, 79. (Cf. BUTURLIN, Auk, XXV, 1908, 35; RIDGWAY, *l. c.*, 226.)

766a. **Sialia sialis azurea** (BAIRD). This becomes

766a. **Sialia sialis fulva** BREWSTER.

*Sialia sialis fulva* BREWSTER, Auk, II, 1885, 85.

*Sialia azurea* SWAINSON, 1827, was not a *nomen nudum*, as usually supposed, but a substitute name for *Sialia sialis*; it is therefore not available for the Azure Bluebird, the earliest name for which appears to be *fulva*, as above. (RICHMOND, MS.)

768. **Sialia arctica** (SWAINSON). A much earlier name occurs in

768. **Sialia currucoides** (BECHSTEIN).

*Motacilla s. Sylvia currucoides* BECHSTEIN, in LATHAM, Allg. Ueb. Vögel, III, ii, 1798, 546, pl. 121.

Swainson described and figured the Arctic Bluebird in 1831, and his name, "*Erythaca (Sialia) arctica*" is generally supposed to have been the earliest reference to the species. It is now found, however, that Bechstein gave a description and colored figure of this species in 1798, under the name *Motacilla s. Sylvia currucoides*, which name is accordingly adopted. (RICHMOND, MS.)

#### IV. PROPOSED ADDITIONS AND CHANGES NOT ACCEPTED.

**Gavia** vs. *Colymbus* (cf. STONE, Auk, 1907, 199). A change in this case is obviated by the application of Rule 30 of the new International Code, now incorporated into the revised A. O. U. Code.

**Colymbus** vs. *Podiceps* (cf. STONE, Auk, 1907, 199). The proposed change is unnecessary, being based on the now obsolete "first species" rule.

**Dytes** vs. *Proctopus* (cf. COUES, Osprey, III, 1899, 144). The proposed change is not adopted, since *Proctopus* is a synonym of *Dytes*.

*Pseuduria* COUES (cf. COUES, Osprey, III, 1899, 144.) The characters of this proposed subgenus are considered too slight for inclusion in the List.

**Megalestris** vs. *Catharacta* (cf. POCHE, Orn. Monatsb., 1904, 23). *Catharacta* has been used for several groups of birds, under various spellings, the first use of one of its variants being for a genus of Penguins, which renders it unavailable for the present genus (cf. ALLEN, Auk, 1904, 345).

*Blasippus*, *Chroicocephalus*, and *Hydrocolæus* (cf. COUES, Osprey, III, 1899, 144). These proposed subgenera of *Larus* are not adopted, being chiefly based upon pattern of coloration.

Subgenus **Thalasseus** vs. genus *Hydroprogne* (cf. SALVIN & GODMAN, Biol. Centr.-Amer., Aves, III, 1903, 401). Recognition as a genus not considered desirable; furthermore, *Thalasseus* is the proper name for the group. (Cf. ALLEN, Bull. Am. Mus. N. H., XXIV, 1908, 10, 39.)

**Thalassogeron** vs. *Diomedea* (cf. ROTHSCHILD, Bull. Brit. Orn. Club, XV, 1904, 45). No reasons have been offered for the proposed change.

*Oceanodroma beali* EMERSON, Condor, VIII, 1906, 54.

*Oceanodroma beldingi* EMERSON, Condor, VIII, 1906, 54. This and the preceding appear to be indistinguishable from *O. leucorhoa*.

*Oceanodroma monorhis chapmani* BERLEPSCH, Auk, XXIII, 1906, 185. This proves to be a phase of plumage of *O. socorroensis*.

*Dilophalieu* (cf. COUES, Key, 5th ed., 1903, 962). Not admitted, the proposed subgenus being based on insufficient characters.

*Viguacarbo* (cf. COUES, Key, 5th ed., 1903, 963). The characters of this proposed subgenus are not deemed sufficient for recognition in the List.

127. **Pelecanus californicus** vs. *P. fuscus* [= *occidentalis*] *californicus* (cf. RIDGWAY, Proc. U. S. Nat. Mus., XIX, 1897, 593; HARTERT, Nov. Zool., VI, 1899, 176; Twelfth Supplement, Auk, 1903, 363).

A change in status is considered unnecessary.

**Merganser** vs. *Serrator* (cf. STONE, Auk, 1907, 194). No change required. (See under 'Changes in Nomenclature,' *antea*, p. 360.)

160. **Somateria dresseri** vs. *S. mollissima dresseri* (cf. HARTERT, Bull. Brit. Orn. Club, XV, 1904, 44). The change is deemed unnecessary at present.

**Melanitta** vs. *Phæonetta* (cf. STONE, Auk, 1907, 198). Proposed change based on the "first species" rule.

**Exanthemops** vs. full genus (cf. Twelfth Supplement, Auk, 1903, 368). Elevation to generic rank not considered desirable.

- 171.2. **Anser brachyrhynchus** vs. *Melanonyx brachyrhynchus*, and [171.1.] **Anser fabalis** vs. *Melanonyx segetum* (cf. BUTURLIN, Wild Geese Russian Empire, 1901, 22; SALVADORI, Ibis, 1905, 530). *Melanonyx* is not thought worthy of recognition, being based on slight characters, and *fabalis*, as the specific name of the Bean Goose, has priority over *segetum*.

**Plegadis** vs. *Egatheus* (cf. LÖNNBERG, Journ. f. Orn., 1906, 533).

No change required, since *Egatheus* proves to be a substitute name for *Ibis* LACÉPÈDE, an Old World genus.

202. **Nycticorax nycticorax nævius** vs. *N. n. griseus* (cf. DUBOIS, Syn. Avium, 1903, 917). A change proves to be unnecessary, since it is found that *grisea* was based on a young bird, without locality, but probably from Europe, from which the American bird is held to be subspecifically distinct.

**Coturnicops** vs. *Ortygops* (cf. Twelfth Supplement, Auk, 1903, 368). *Ortygops* proves to be a pure synonym of *Coturnicops*, hence no change is required.

**Ionornis** vs. *Porphyriola* (cf. GODMAN & SHARPE, Biol. Centr.-Amer., Aves, III, 1903, 327).

The proposed change is not accepted, as there is a question of priority between the two names, and the type species of *Porphyriola* was a *nomen nudum* until 1852.

256. **Helodromas solitarius** vs. *Rhyacophilus solitarius* (cf. OBERHOLSER, Proc. U. S. Nat. Mus., XXVIII, 1905, 838). A change is considered unnecessary.

**Actitis** vs. *Tringoides* (cf. STONE, Auk, 1907, 198). No change required, the proposed innovation being based on the "first species" rule.

*Egialeus* (cf. COUES, Key, 5th ed., 1903, 775). Not accepted; based on characters too slight for recognition.

*Colinus virginianus insularis* HOWE, Proc. Biol. Soc. Wash., XVII, 1904, 168. Based in all probability upon a straggler from the mainland of Florida, and the characters ascribed are too slight for admittance to the List.

*Lophortyx catalinensis* GRINNELL, Auk, 1906, 262. Considered as unworthy of recognition, the characters given for the insular bird being intermediate between those of allied forms from the mainland.

**Bonasa** vs. *Hylobrontes* (cf. STONE, Auk, 1907, 198). Proposed change based on the now rejected "first species" rule.

**Tympanuchus** vs. *Bonasa* (cf. STONE, Auk, 1907, 198). Proposed change rejected, for reasons given under the preceding case.

315. **Ectopistes migratorius** vs. *E. macroura* (cf. BANGS, Proc. Biol. Soc. Wash., XIX, 1906, 44). Not adopted, the proposed change, in the opinion of the Committee, being based on false reasoning (see 'Changes in Nomenclature,' under No. 316).

**Oathartes** vs. *Rhinogryphus* (cf. STONE, Auk, 1907, 198). Proposed change based on the "first species" rule, hence not accepted.

**Tachytriorchis** vs. full genus (cf. Twelfth Supplement, Auk, 1903, 368). The proposed change in status considered unnecessary.

**Hierofalco** vs. full genus (cf. Twelfth Supplement, Auk, 1903, 368). The requirements of this case are believed to be fully met by retaining *Hierofalco* as a subgenus.

**Rhynchofalco** vs. *Hypotriorchis*, and as full genus (cf. DUBOIS, Syn. Avium, 1902, 872). Not considered worthy of generic rank, and *Hypotriorchis* and *Rhynchofalco* are deemed to be subgenerically distinct.

**Asio** vs. *Nyctalops* (cf. STONE, Auk, 1903, 275). No change required.

*Psiloscoops* (cf. COUES, Osprey, III, 1899, 144). Not accepted, the proposed subgenus possessing no characters worthy of recognition.

**Bubo** vs. *Asio* (cf. STONE, Auk, 1903, 275). No change required.

375. **Bubo virginianus** vs. *Asio* [= *Bubo*] *magellanicus virginianus* (cf. OBERHOLSER, Proc. U. S. Nat. Mus., XXVII, 1904, 179, 188). No change required, as *Strix magellanicus* proves not to have been used in a systematic sense by Gmelin.

*Asio* [= *Bubo*] *magellanicus icelus* OBERHOLSER, Proc. U. S. Nat. Mus., XXVII, 1904, 185.

*Asio* [= *Bubo*] *magellanicus lagophonus* OBERHOLSER, Proc.

U. S. Nat. Mus., XXVII, 1904, 185. These two forms not admitted, being too close to *B. v. saturatus* for recognition as independent subspecies.

*Bubo virginianus occidentalis* (cf. OBERHOLSER, Proc. U. S. Nat. Mus., XXVII, 1904, 191). Not admitted, for reasons given in the Eighth Supplement, Auk, 1897, 132.

375b. *Bubo virginianus subarcticus* vs. *Asio magellanicus wapa-cutu* (cf. OBERHOLSER, Proc. U. S. Nat. Mus., XXVII, 1904, 191). This proposed change not adopted, since *Strix wapa-cutu* was based on a young bird, not with certainty identifiable.

[377.] *Surnia ulula* vs. *S. funerea* (cf. OBERHOLSER, Proc. Biol. Soc. Wash., XIX, 1906, 42). No action necessary (see 'Changes in Nomenclature,' under No. 371).

[377.] *Surnia ulula* vs. *S. u. doliata* (cf. SHARPE, Hand-List, I, 1899, 296). With the material at its command, the Committee cannot distinguish this form, the proper name for which, if recognizable, will be *S. u. pallasi* BUTURLIN.

*Glaucidium* vs. *Noctua* (cf. STONE, Auk, 1907, 192). Proposed change not accepted, since *Noctua* of S. G. Gmelin proves to be referable to the Short-eared Owl (cf. STONE, Auk, 1908, 221).

396a. *Dryobates scalaris lucasanus* vs. *D. lucasanus* (cf. BREWSTER, Bull. Mus. Comp. Zool., XLI, 1902, 102). Recent material from Lower California has convinced the Committee that a change is unnecessary.

*Picoides arcticus tenuirostris* BANGS, Auk, 1900, 131. Not accepted; the characters ascribed to this form appear to be too slight for recognition.

403. *Sphyrapicus ruber* vs. *S. r. daggetti* (cf. ANDERSON & GRINNELL, Proc. Acad. Nat. Sci. Phila., 1903, 8). Again rejected, for reasons given in the Eleventh Supplement (Auk, 1902, 334).

*Melanerpes formicivorus aculeatus* (cf. SWARTH, Pac. Coast

Avif., No. 4, 1904, 13). On reconsideration the former decision of the Committee was reaffirmed.

*Contopus richardsonii saturatus* BISHOP, Auk, 1900, 116. Not accepted, the alleged characters proving of no value.

*Otocoris alpestris aphrasta* OBERHOLSER, Proc. U. S. Nat. Mus., XXIV, 1902, 860. Considered to be extralimital.

*Cyanocitta stelleri borealis* CHAPMAN, Bull. Am. Mus. N. H., XVI, 1902, 240. Not admitted, for reasons expressed in the former ruling of the Committee (Auk, 1903, 362).

*Stellerocitta* and *Sieberocitta* (cf. COUES, Key, 5th ed. 1903, 495, 499). These proposed subgenera are not accepted, having been based on color characters alone.

**Perisoreus** vs. *Cractes* (cf. RIDGWAY, Bull. U. S. Nat. Mus., No. 50, Pt. III, 1904, 750). *Cractes* proves to be simply a substitute name for *Garrulus* BRISSON, and does not enter the Check-List.

*Corvus corax clarionensis* ROTHSCHILD & HARTERT, Nov. Zool., IX, 1902, 381. (Cf. RIDGWAY, Bull. U. S. Nat. Mus., No. 50, Pt. III, 1904, 264.) Believed to be not sufficiently distinct for recognition, so far as the alleged form occurs within our limits.

489. **Corvus caurinus** vs. *C. brachyrhynchos caurinus* (cf. RIDGWAY, Bull. U. S. Nat. Mus., No. 50, Pt. III, 1904, 746). The proposed change in the status of this form is considered unwarranted at present.

*Loxia curvirostra bendirei* (cf. MERRIAM, N. A. Fauna, No. 16, 1899, 123; RIDGWAY, Bull. U. S. Nat. Mus., No. 50, Pt. I, 1901, 50). Not accepted, there being apparently no well-defined range for the supposed form.

523. **Leucosticte griseonucha** vs. *L. tephrocotis griseonucha* (cf. RIDGWAY, Bull. U. S. Nat. Mus., No. 50, Pt. I, 1901, 72). Without clear proof of intergradation, a change in status in this case is deemed to be undesirable.

528. **Acanthis linaria** vs. *A. flammea* (cf. HARTERT, Vögel pal. Fauna, I, 1903, 77). No change required (cf. HARTERT, Orn. Monatsb., 1907, 97).

550a. **Ammodramus maritimus peninsulæ** and 550c, **A. m. fisheri** vs. *A. m. macgillivraii* (cf. WAYNE, Auk, 1906, 66, 67). These proposed changes seem to be unadvisable at present.

570a. **Junco phæonotus dorsalis** vs. *J. dorsalis* (cf. RIDGWAY, Bull. U. S. Nat. Mus., No. 50, Pt. I, 1901, 297). The proposed change is not adopted, since intergradation is believed to occur.

581j. **Melospiza cinerea [= melodia] juddi**. This proposed elimination from the Check-List (cf. RIDGWAY, Bull. U. S. Nat. Mus., No. 50, Pt. I, 1901, 356) is believed to be unnecessary.

*Melospiza coronatorum* GRINNELL & DAGGETT, Auk, 1903, 34. This is thought to be equivalent to *M. melodia clementæ*, and is not admitted.

583a. **Melospiza lincolni striata** vs. *M. l. gracilis* KITTLITZ (cf. OBERHOLSER, Proc. Biol. Soc. Wash., XIX, 1906, 42). Not accepted, Kittlitz's description being too brief to permit of certain identification.

585d. **Passerella iliaca stephensi** vs. *Passerella stephensi* (cf. GRINNELL, Auk, 1905, 388). The proposed change in status appears to be unwarranted.

*Passerella iliaca annectens* RIDGWAY, Bull. U. S. Nat. Mus., No. 50, Pt. I, 1901, 30, and

*Passerella iliaca annectens* vs. *P. i. meruloides* (cf. GRINNELL, Condor, IV, 1902, 45). Both *annectens* and *meruloides* are believed to represent one form, which is inseparable from *P. i. insularis*.

591a. **Pipilo fuscus albigula** vs. *P. albigula* (cf. RIDGWAY, Bull. U. S. Nat. Mus., No. 50, Pt. I, 1901, 433). This proposed change in status is thought unnecessary.

*Cardinalis cardinalis magnirostris* BANGS, Proc. N. E. Zool. Club, IV, 1903, 6. The characters ascribed to this form are too slight for recognition.

608. *Piranga erythromelas* vs. *P. mexicana* (cf. OBERHOLSER, Proc. Biol. Soc. Wash., XIX, 1906, 43). The proposed change is rejected, on the ground that *mexicana* is based on Seba, whose plate and description are better applicable to *Cardinalis* than to *Piranga*.

632c. *Vireo huttoni obscurus* vs. *V. huttoni* (cf. ANDERSON & GRINNELL, Proc. Acad. Nat. Sci. Phila., 1903, 12). The proposed change in status is believed to be unwarranted.

*Vireo bellii arizonæ* RIDGWAY, Proc. Biol. Soc. Wash., XVI, 1903, 108. Not admitted, on the ground that it is a synonym of *V. b. pusillus*.

*Vireo mailliardorum* GRINNELL, Condor, V, 1903, 157. The characters alleged for this form appear to be too slight for recognition.

*Vermivora celata orestera* OBERHOLSER, Auk, 1905, 243. Not admitted, on the ground of insufficient characters.

*Compsothlypis americana ramalinæ* RIDGWAY, Bull. U. S. Nat. Mus., No. 50, Pt. II, 1902, 486. Not considered worthy of recognition.

*Perissoglossa* vs. full genus (cf. MAYNARD, Warblers of New England, 1905, 13). A change in status thought to be inadvisable.

*Neodendroica* and *Cinerosa* MAYNARD, Warblers of New England, 1901-05, 58, 69, 110. These proposed genera are considered unnecessary, being based upon color characters.

681. *Geothlypis trichas* vs. *G. t. ignota* (cf. CHAPMAN, Auk, 1907, 30-34). The proposed change is believed to be unnecessary.

[695.] *Motacilla ocularis* vs. *M. alba ocularis* (cf. HARTERT, Vögel pal. Fauna, III, 1905, 307). The proposed change in status appears to be unwarranted.

*Budytes flavus leucostratus* vs. *B. f. similima* (cf. HARTERT, Vögel pal. Fauna, III, 1905, 289). No change is required, since the Alaskan bird had been previously named **alascensis** by Ridgway, whose name was accepted in the last Supplement (Auk, 1904, 417).

697. *Anthus pensilvanicus* [= **rubescens**] vs. *A. spinoletta pensilvanicus* (cf. HARTERT, Vögel pal. Fauna, III, 1905, 282). Actual intergradation is believed to be unknown.

*Toxostoma redivivum helva* THAYER & BANGS, Proc. N. E. Zool. Club, IV, 1907, 17. Not deemed sufficiently distinct for recognition.

716. *Salpinctes guadeloupensis* vs. *S. obsoletus guadeloupensis* (cf. RIDGWAY, Bull. U. S. Nat. Mus., No. 50, Pt. III, 1904, 650). The proposed change in status is thought to be inexpedient.

*Catherpes mexicanus poliopterus* OBERHOLSER, Auk, 1903, 197. This is rejected as being based on intergrades of several adjacent forms.

*Thryomanes bewickii cerroensis*.

*Thryomanes bewickii drymæcus*.

*Thryomanes bewickii nesophilus*.

*Thryomanes bewickii eremophilus*, and

719.1. *Thryomanes leucophrys* vs. *T. bewickii leucophrys* (cf. RIDGWAY, Bull. U. S. Nat. Mus., No. 50, Pt. III, 1904, 557-563). The proposed additions and change in status are not accepted, for reasons given in the Tenth Supplement (Auk, 1901, 313-314).

*Parus (Lophophanes) bicolor floridanus* BANGS, Auk, 1898, 181 (cf. HELLMAYR, Tierreich, Lief. 18, 1903, 42). The characters of this form are too slight and inconstant for recognition. The Committee gave an adverse decision also in the Ninth Supplement.

*Bæolophus wollweberi annexus* (cf. RIDGWAY, Bull. U. S. Nat. Mus., No. 50, Pt. III, 1904, 393). Not admitted, since it proves to be indistinguishable from true *wollweberi*.

736. *Parus* [= **Penthestes**] **carolinensis** vs. *P. atricapillus carolinensis*.
737. *Parus* [= **Penthestes**] **sclateri** vs. *P. palustris sclateri*.
739. *Parus* [= **Penthestes**] **cinctus alascensis** vs. *P. c. obtectus*. (Cf. HARTERT, Vögel pal. Fauna, III, 1905, 376, 366.) A change in status in these forms is believed to be unnecessary.

*Psaltriparus minimus saturatus* RIDGWAY, Bull. U. S. Nat. Mus., No. 50, Pt. III, 1904, 434. Not admitted, the Committee being unable to find any tangible differences between the proposed new form and *minimus*.

- 743b. **Psaltriparus minimus grindæ** vs. *P. grindæ* (cf. RIDGWAY, Bull. U. S. Nat. Mus., No. 50, Pt. III, 1904, 436). There appear to be no valid reasons for altering the status of this form.

*Regulus calendula cineraceus* GRINNELL, Condor, VI, 1904, 25. The characters of this proposed form appear to be too indefinite for recognition by name.

- 763a. **Ixoreus naevius meruloides**. Proposed elimination. (Cf. RIDGWAY, Bull. U. S. Nat. Mus., No. 50, Pt. IV, 1907, 134.) Material only recently available appears to support the validity of this form, and the proposed elimination is not accepted.

*Sialia sialis grata* (cf. HOWE, Contr. N. Am. Orn., 1902, 31). Again rejected, as indistinguishable from *S. sialis*. (Cf. Auk, 1899, 131.)

#### V. DEFERRED CASES.

**Acanthopneuste borealis** vs. *A. b. kennicottii*.

*Accipiter velox rufilatus* RIDGWAY.

*Agelaius phœniceus arctolegus* OBERHOLSER.

*Anas boschas spilogaster* SCHIOLER.

**Glaucidium phalænoides** vs. *G. p. ridgwayi*.

*Lagopus rupestris chamberlaini* CLARK.

*Larus vegæ* vs. *L. argentatus*.

*Melospiza cinerea phæa* FISHER.

*Oceanodroma socorroensis* vs. *O. monorhis*.

*Otocoris alpestris enertera* OBERHOLSER.

*Speotyto cunicularia becki* ROTHSCILD & HARTERT.

*Telmatodytes palustris thryophilus* OBERHOLSER. \*

*Totanus melanoleucus frazari* BREWSTER.

*Trochilus* vs. *Archilochus*.

*Vireo huttoni oberholseri*.

The following generic cases have been submitted to the International Zoölogical Commission:

<i>Alca</i>	versus	<b>Plautus.</b>	
<b>Thalasseus</b>	"	<i>Hydroprogne.</i>	
<i>Actochelidon</i>	"	<b>Thalasseus.</b>	
<i>Rhantistes</i>	"	<b>Fulmarus.</b>	
<b>Herodias</b>	"	<i>Leucophoyx.</i>	
<i>Columbina</i>	"	<b>Chæmepelia.</b>	
<i>Morphnus</i>	"	<b>Urubitinga.</b>	
<b>Catharista</b>	"	_____?	
<b>Ceryle</b>	"	<i>Alcedo</i> (as affected by <i>Ispida</i> BRISSON).	
<b>Acanthis</b>	"	<i>Ægiothus.</i>	
<i>Hortulanus</i>	"	<b>Zonotrichia.</b>	
<b>Helinaia</b>	"	_____?	
<b>Ammodramus</b>	"	<i>Coturniculus.</i>	} Swainsonian genera.
<b>Coturniculus</b>	"	<i>Passerherbulus.</i>	
<b>Tiaris</b>	"	<i>Euetheia.</i>	
<b>Helminthophila</b>	"	<i>Vermivora.</i>	

